The SOUTHERN ECONOMIC JOURNAL

VOLUME XXVIII July 1961 NUMBER 1

ON THE INEQUALITY OF THE RATE OF PROFIT AND THE RATE OF INTEREST[1]

CALVIN B. HOOVER

Duke University

No concept is more deeply imbedded in micro-economic theory than the notion of a production function. On fairly well-established empirical grounds, this function is generally assumed to obey the Law of Diminishing Marginal Returns, i.e., over the relevant range of input magnitudes, the marginal product of each input diminishes as its usage is expanded while all other inputs are held constant. Transmuted by a sort of alchemy into a fundamental element in the theory of distribution, the production function became the basis for the familiar proposition that marginal productivity determines real interest, wages, and rent.[2]

This latter concept has survived, even though contemporary theorists realize that there are not, in fact, simply two or three factors of production which can be considered homogenous. Indeed, the concept has survived despite the logical difficulties in imputing the traditional distributional shares to such separate generalized factors on the basis of statistical data available.[3]

The concept also eventually took on the form of a declining marginal productivity for investment in general. Assuming that increased investment meant the employment of increased quantities of capital, at any moment in time, all other factors being assumed to remain unchanged in quantity, it was held that a declining marginal return per unit of capital was to be expected. The concept has survived the difficulties of answering the often raised question[4] of just why there should be a declining curve of marginal productivity for the *sum* of invested factors, however defined.

Robert Solow has raised the question of whether neo-classical theory has relevance to the statistical aggregates available to us. "But what does neo-classical theory lead one to expect about relative shares, the rate of profit and other aggre-

[1] The study resulting in this publication was made under a fellowship granted by The Ford Foundation. However, the conclusions and opinions in this publication are those of the author and are not necessarily those of The Ford Foundation.

I am obliged to my colleagues, Professor J. J. Spengler and Professor C. E. Ferguson, for frequent exchanges of ideas concerning the theory of marginal productivity.

[2] For an analysis of the conceptual difficulties involved in the imputation of marginal products to factors of production see "On the Meaning of the Marginal Product" by Fritz Machlup, reprinted from *Explorations in Economics*, McGraw Hill, 1936, in *Readings in the Theory of Income Distribution*, The Blakiston Co., 1946.

For an analysis of the thought-process by which the neo-classical doctrine of marginal productivity derived and departed from the Ricardian model, see "Alternative Theories of Distribution" by Nicholas Kaldor, *Review of Economic Studies*, XXIII, (1955–56), pp. 83–91, reprinted in *Essays in Economic Thought* (Rand, McNally 1960), particularly pp. 747–750.

Georgescu-Roegen has pointed out, for example, the logical impossibility of imputing a marginal product to any other factor in the region where a particular factor is limitative. N. Georgescu-Roegen, "Economic Theory and Agrarian Economics," *Oxford Economic Papers*, N. S., Volume 12, No. 1, February 1960. The logic of any national production function, however, depends upon limitation of the supply of factors.

[3] Apart from the general conceptual difficulties involved in defining factors of production, Professor T. W. Schultz has pointed out the logical difficulties in embodying all capital investment in the factor "capital," since much investment is actually in labor. See his "Investment in Man, An Economist's View," *Social Science Review*, Vol. XXXIII, No. 2, June 1959, and "Capital Formation by Education," *Journal of Political Economy*, Vol. LXVIII, No. 6, December 1960.

[4] As Professor Frank Knight put it, "if new investment can be freely directed to all uses, *i.e.*, embodied in all types of productive agents indifferently, it will not be subject to diminishing returns." "On Diminishing Returns from Investment," *Journal of Political Economy*, March 1944, p. 33.

gates? In general, very little."[5] He goes on to say, "A notation like the stock of real capital is no problem for the theory because the notion never occurs; real capital is not bought or sold in any market."[6] It would be more logical to say that the notion of the stock of real capital did indeed exist for neo-classical theory, but the theory does not explain whether and how existing financial statistical data are related to the stock of real capital.

These conceptual difficulties remain when the marginal productivity of capital is transformed into the Keynesian concept of the marginal efficiency of capital, or, as it was to be more appropriately termed by Lerner,[7] the marginal efficiency of investment. As Keynes put it, in terms which he recognized as applicable to what had generally been called the marginal productivity of capital: "If there is an increased investment in any given type of capital during any period of time, the marginal efficiency of that type of capital will diminish as the investment in it is increased, partly because the prospective yield will fall as the supply of that type of capital is increased, and partly because, as a rule, pressure on the facilities for producing that type of capital will cause its supply price to increase. . . . Now it is obvious that the actual rate of current investment will be pushed to the point where there is no longer any class of capital-asset of which the marginal efficiency exceeds the current rate of interest."[8] This is obviously no explanation of why the marginal efficiency of capital in general would decline as quantities increased.

If, in spite of the formidable conceptual difficulties, the validity of some sort of concept such as the marginal efficiency of investment could be assumed, are there data in the American economy which might measure this marginal efficiency? An easy answer would be to find the marginal efficiency of investment measured simply by the market rate of interest. But such an answer would not only be contrary to the Keynesian analysis, it would obviously be tautological. What would ideally be required, if the implication so firmly imbedded in economic theory of a declining curve of marginal efficiencies of capital were valid, would be a schedule of marginal efficiency declining with increased amounts of capital invested. Such demand schedules are, of course, notoriously difficult to construct from historical data even for commodities, and it is clear that the difficulties would be insurmountable for constructing a demand schedule for quantities of capital reflecting a declining marginal efficiency of investment based upon historical data.

Since it is not feasible to construct such a schedule and curve, one may inquire whether there are data which could at least be taken to represent the marginal efficiencies of investment at a succession of points in time as reflected in the capital market. Such data could certainly not be taken to represent a schedule of capital yields varying with quantities, nor to represent increasing quantities of capital taken at decreasing rates of interest. On the analogy of commodity markets, one would have only a series of market prices over time. On the general assumptions of economic theory, these would indeed represent a series of market intersections of a like number of

[5] However, in spite of the scepticism which substantially all theorists must have about its validity, the concept of a national production function is sometimes still referred to as a possible explanation of the alleged constancy of distributional shares. For example, as Schumpeter put it, ". . . Now, *if there were any sense in speaking of a national production function at all*, first-order homogeneity of this function would supply a very simple explanation of a remarkable fact, namely, the relative constancy of the main relative shares of 'factors' in the national dividend." Joseph A. Schumpeter, *History of Economic Analysis* (New York: Oxford University Press, 1954), p. 1042.

[6] Robert Solow, "On Productivity," *Review of Economics and Statistics*, August 1959, p. 282. Solow also notes the logical difficulty of excluding intangible capital formation in education, in health and in research from computations of the capital-output ratio. He refers to Schultz' estimate that educational expenditures in the United States amounted in 1956 to 28 per cent of gross physical capital formation. "Investment and Economic Growth: Some Comments," *Productivity Measurement Review*, No. 19, November 1959. But if the capital output ratio would be affected by the inclusion or exclusion of intangible capital from the computation, so would the computation of any production function. It would not be only a question of whether the capital "factor" of a production function would be larger or smaller, but of whether educational expenditures, for example, would be computed as an addition to the "capital factor" to the "labor factor."

[7] A. P. Lerner, "On the Marginal Product of Capital and the Marginal Efficiency of Investment," *Journal of Political Economy*, 1953, pp. 1–14.

[8] J. M. Keynes, *The General Theory of Employment, Interest and Money* (London: Macmillan, 1936), p. 136.

curves of declining marginal efficiency of capital and supply curves of capital, with a consequent identity of the market rates of interest and the rates of marginal efficiency of capital at the succession of points in time. Let us see, however, whether any data available to us will show us even the one point of intersection of the current market of the marginal efficiency of investment and the market rate of interest at a moment in time.

Data on the rate of profit return on corporate investment in manufacturing, while they would not represent the marginal efficiency of investment for the whole economy, might be examined to see whether they might serve as a sort of limited proxy for this purpose. Data taken from the Quarterly Financial Reports of Manufacturing Corporations, published by the Federal Trade Commission and the Securities and Exchange Commission show annual rates of profit on stockholders' equity for all manufacturing corporations after federal income taxes as shown in Table I.

A report of the Federal Trade Commission published in 1957 showed rates of return on stockholders investment for 492 identical companies in 25 selected manufacturing industries for 1940 and 1947–55.[9] Lanzillotti, in developing his doctrine of target rates of return for large companies, found that the average target rate of return on investment for twenty large companies which had been included in the sample of 492 companies of the Federal Trade Commission report cited above was 14 per cent after taxes. He also found that the average rate of return on investment for the twenty companies[10] actually earned in 1947–55 was in excess of 14 per cent.

Sidney Cottle and Tate Whitman in their *Corporate Earning Power and Market Valuation 1935–1955* found that the average earnings rate on total capital after taxes of the large number of companies which they studied for the years

TABLE I

ANNUAL RATES ON STOCKHOLDERS' EQUITY
(After Taxes)
All Manufacturing Corporations
(Percent)

1947	15.6
1948	16.0
1949	11.6
1950	15.4
1951	12.5
1952	10.5
1953	10.5
1954	9.9
1955	12.6
1956	12.3
1957	11.0
1958	8.6
1959	10.4
1960 (First Quarter)	9.8

1951–55 was 11.7 per cent and the return on stockholders' equity was 14 per cent.[11]

The United States Department of Labor in a publication of August 1959—"Statistics Bearing on The Steel Dispute"—estimated profits on net worth after taxes of the 25 leading industrial firms in 1955–57 as 14.7 per cent.[12] Thus, wide acceptance of the fact of corporate rates of profit on investment of more than double the market rate of interest is indicated.[13] The variance in rates of

[9] Report of the Federal Trade Commission on Rates of Return after Taxes for Identical Companies in Selected Manufacturing Industries 1940, 1947–55.

[10] Robert F. Lanzillotti, "Pricing Objectives in Large Companies," *The American Economic Review*, Vol. XLVIII, No. 3 (December 1958) p. 921–940. See also *Pricing in Big Business*, by Kaplan, Dirlam and Lanzillotti (Washington, D. C.: The Brookings Institution, 1948). It is noteworthy that those who criticized Lanzillotti's doctrine of target pricing usually did not do so on the grounds that the rates of profit cited were too high.

[11] Sidney Cottle and Tate Whitman, *Corporate Earning Power and Market Valuation 1935–1955* (Durham, N. C.: Duke University Press, 1959), p. 33. The difference between the rate of return on total capital and upon stockholders' equity capital is accounted for by Cottle and Whitman by the leverage provided by fixed interest obligations with a very low rate of interest amounting to about 20 per cent of total capital.

[12] United States Department of Labor, James P. Mitchell, Secretary, *Background Statistics Bearing on The Steel Dispute* (August 1959), p. 18.

[13] One exception to these estimates of profit rates of return for large corporations which show a "going rate of return" on net worth at least double the market rate of interest is that of the *Capital Goods Review*, May 1959. It is the contention of the writer of the article that adjusted corporate profits after tax as a percentage of adjusted net worth would amount to less than 6 per cent for 1950–59, if proper allowances were made for depreciation and inflation. This writer of the above article believes that unadjusted figures greatly understate net worth. However, if the increases in net worth which occurred during the period had been computed as part of profit, the rate of return would apparently have been much higher.

CHART 1A

BOND YIELDS

Source: Historical Supplement to Federal Reserve Chart Book on Financial and Business Statistics, Board of Governors of the Federal Reserve System, September 1960, p. 44.

CHART 1A. Source: *Historical Supplement to Federal Reserve Chart Book on Financial and Business Statistics*, Board of Governors of the Federal Reserve System, September 1960, p. 44.

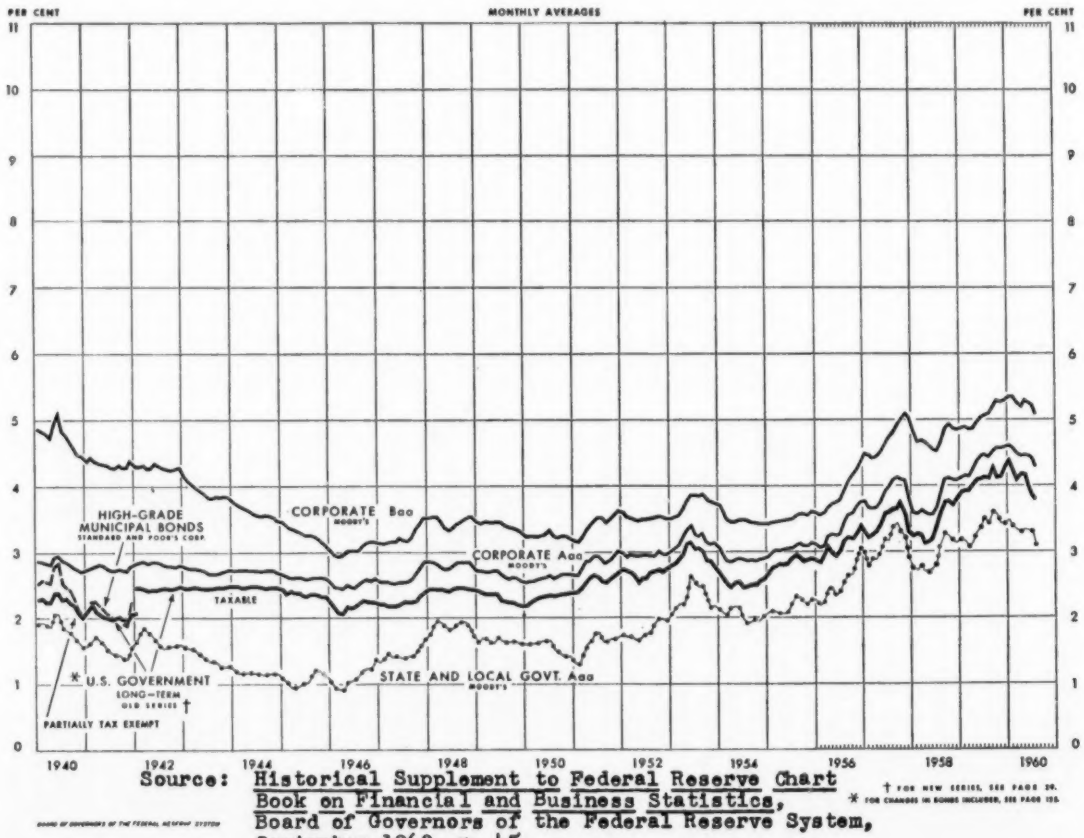
CHART 1B

September 1960, p. 44.

CHART IA. Source: *Historical Supplement to Federal Reserve Chart Book on Financial and Business Statistics*, Board of Governors of the Federal Reserve System, September 1960, p. 44.

CHART 1B

BOND YIELDS



Source: Historical Supplement to Federal Reserve Chart Book on Financial and Business Statistics, Board of Governors of the Federal Reserve System, September 1960, p. 45.

CHART IB. Source: *Historical Supplement to Federal Reserve Chart Book on Financial and Business Statistics*, Board of Governors of the Federal Reserve System, September 1960, p. 45.

profit as estimated by these sources depends upon numerous factors, such as differences in number of firms covered in the sample, and differences in whether all capital or only equity capital is used as a base upon which profits are computed. The order of magnitude of the differences in rates of profit, however estimated, are not significant for our purposes.

During the last couple of decades, the market rate of interest has rarely been above 5 per cent and has sometimes been below 3 per cent as can be seen from Charts IA and IB. These data are by no means strictly comparable with those on corporate rates of profit on investment referred to above, but for the purposes of this analysis, they serve adequately enough to show a rate of profit on stockholders' investment which has been continuously in excess of double the current market rate of interest. Thus, to the extent that rates of profit might be taken to represent the marginal efficiency of investment, there was not a market equilibrium at which there was an identity with the market rate of interest, but instead a gap between the two which most of the time was greater than and sometimes was twice the height of the interest rate itself.

In the long continuing controversy which has been carried on over the question of whether or not corporations aim simply at maximizing their profits or whether they follow some other policy of target rates of return or some fixed "mark up" above cost of production, however computed, there has been relatively little interest expressed over a question which is even more basic to economic theory and to industrial policy. This question which follows from the data showing the gap between corporate rates of profit and the market rate of interest is: How is it possible to account for corporate profit rates of return which are so much above current interest rates?

It might be argued that the difference between, say, a 12 per cent corporate rate of profit return on investment and the market rate of interest is simply due to the risk premium involved. But if this were so, one would have to postulate an *ex post* positive rate of risk premium far higher than economists have generally been willing to consider. The profit rate of return on corporate investment, of course, includes interest on equity capital, but the excess over the market rate of interest cannot be considered simply as a premium for risk or uncertainty. The rates of profit which are so much higher than the market rate of interest over a period of years may logically be considered *net* returns *after* the results of bad risks which corporate investment decision makers have been taking year after year are averaged in with the results of their more fortunate risks. It is, of course, a matter of doubt whether there is for the economy as a whole *any net* risk premium in excess of the market rate of interest. While there can be no absolute presumption that good and bad risks would cancel out, it would be illogical to think of a substantial annual excess over interest costs for capital in payment for a risk which on a net basis has not existed and could be shown by experience not to have existed. Indeed, the willingness of individual purchasers of corporate equities to pay prices for common stocks which sometime give a yield no higher or even less than that on bonds emphasizes the doubt that the gap to which reference is made can be accounted for as a risk premium.

If the possibility of accounting for the spread between the corporate profit rate of return on investment as due to a risk premium is discarded, how is it possible for there to be a substantial gap between the rate of profit on investment serving as a proxy for the marginal efficiency of investment and the market rate of interest, on the assumption that investment would be extended until there is identity at the margin?

A possible answer might be that if, instead of the data on corporate profit rate of return on investment, earnings/price ratios were taken to represent the marginal efficiency of investment, the gap by which the interest rate is below this level is greatly reduced or disappears, or indeed might even momentarily be replaced by a "negative gap." Over the period of the last forty years, the earnings/price ratio has fluctuated widely. In periods of low stock market prices, for brief and rather rare occasions, it came close to equaling corporate rates of return on investment, in years of stock market boom fell to less than half the corporate rate of profit return, and in the years of highest stock market prices fell sometimes to no more than one-third that rate. It has been usually during periods of boom in the stock market that the earnings/price ratio fell almost as low as the interest rate. However, at the bottom of the Great Depression of the thirties when earnings had fallen so drastically, momentarily, the earnings/price ratio was even below

the market rate of interest.[14] These movements can be seen in Chart II.

Nevertheless, one could perhaps rationalize the movement of the earnings/price ratio as reflecting the tendency of investors to buy stocks whenever the earnings/price ratio was higher than the interest rate. This tendency is, of course, greatly modified by speculation concerning future stock prices and yields as affected by current estimates of future growth, the likelihood of inflation and exogenous factors such as wars.

While profit rates of return on corporate investment have usually been two or three times as high as the market rate of interest, and earnings/price ratios have frequently been much above market rates of interest, dividend/price ratios have been much closer to the market rates of interest and sometimes below it. The rate of return on high grade preferred stocks has naturally fluctuated much less and has been much closer to the market rate of interest. Fluctuations in the dividends/price ratio have been of much smaller amplitude, as can be seen from Chart II. It may be that the individual investor gives more weight to a comparison between the dividends/price ratio and the interest rate than he does to the earnings/price ratio comparison.

The term, "the market rate of interest," has thus far been used as though there were a unique rate. For the purpose of analyzing the relation of the marginal efficiency of investment to the market rate of interest, the rate of interest on long term bonds of the Federal government seems most nearly representative of the "pure rate of interest." Perhaps, however, the interest rate on high grade corporate bonds might be even more appropriate for comparison. There is obviously a whole spectrum of interest rates among which a choice might be made. For the purposes of this analysis, however, a comparison between the rate of interest and the various alternative measures of the marginal efficiencies of investment may be made almost regardless of which rate is taken to represent "the market rate of interest." In Charts IA and IB, the movement of a spectrum of market rates of interest is shown.

Do the earnings/price ratio of stocks, or the dividends/price ratio, at least at those times when they are closer to the market rate of interest, more nearly reflect what might be logically considered the marginal efficiency of investment than does the corporate profit rate of return on investment? From the standpoint of the individual investor, it is clear that the earnings/price ratio or the dividends/price ratio does more nearly reflect what to him is the marginal efficiency of investment. It is clear that at the moment of investment this is the comparison the individual investor has to make, instead of with some much higher rate of corporate profits return which he might have realized had he purchased stocks at an earlier time. Corporate profits have been "bid up on him" so that he can currently purchase the right to participate in these profits at an earnings/price ratio only a little higher than the current rate of interest. But neither the earnings/price ratio nor the dividends/price ratio coincides with the much higher margin at which investment is halted by corporate decision makers.

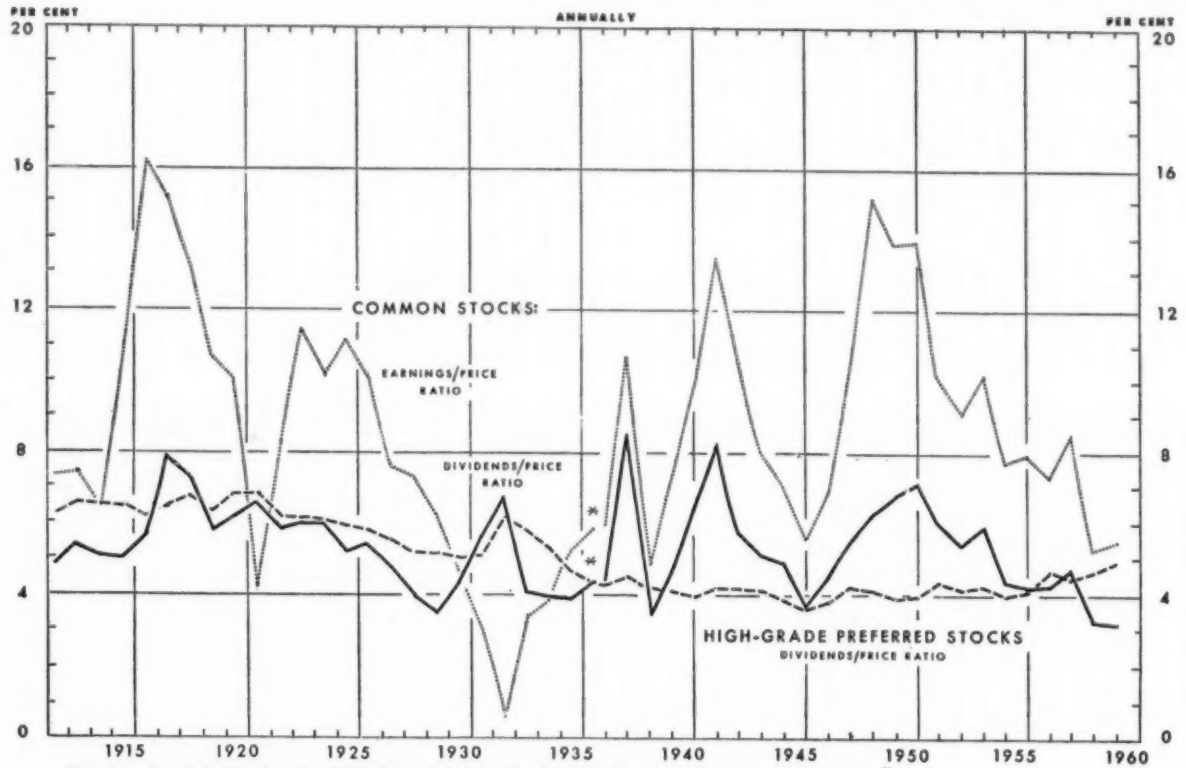
It is not a simple matter to compute the marginal rate of return on new investment expected by corporations on a contemplated investment. Corporations must expect a higher rate of return on new investment than the current rate of return on investments already made, since there is a continual tendency for old investments to earn only a falling rate of return due to competition of additional new investment, shifts in consumer demand, new technology and the like. Furthermore, corporations must often make investments in repairs and to replace worn out equipment simply to avoid a loss. While, strictly speaking, such investment may be thought of as having as high a rate of return as new investment, the bookkeeping rate of return on past investment is lowered.

Somewhat paradoxically, however, corporations must count on a period of no returns at all while construction of new initial facilities is taking place and while these facilities are being put into operation, followed by a period of low returns as operational "know-how" is developed, followed in turn by peak returns as maximum efficiency

[14] Of course, if net capital assets of corporations were continuously revalued at their capitalized earning power, as the securities market very roughly and imperfectly tends to do for the stocks which represent these net assets, earnings/price ratios, corporate rates of profit and the market rate of interest would all three tend towards equality. But computed in terms of the cost of production of corporate assets devoted to investment, the disparity between the market rate of interest and corporate rates of profit would still exist.

CHART II

STOCK YIELDS



Source: Historical Supplement to Federal Reserve Chart Book on Financial and Business Statistics, Board of Governors of the Federal Reserve System, September 1960, p. 51.

CHART II. Source: *Historical Supplement to Federal Reserve Chart Book on Financial and Business Statistics*, Board of Governors of the Federal Reserve System, September 1960, p. 51.

in production and marketing is attained. Consequently, corporate executives who screen investment alternatives must be able to foresee a particularly high rate of return during a brief peak period to compensate for lower returns on both sides of this peak. Between the time of the investment decision and the time when competition of other corporations making similar investments, the development of new processes of production and the development of new products begins to cut in on the market and to reduce the rate of return below the average, there may be, say, ten years of which for only half of the period was the above-the-average rate of return being received. Thus, corporate executives commonly distinguish between the average rate of return on existing investment and the higher rate of return which they use in screening new investment proposals while allowing for a brief initial period of no return and low return on investment. As has been pointed out, the evidence shows that the typical corporate executive during the last decade would generally have been able to choose among investment alternatives which afforded a rate of return more than twice as high as the market rate of interest and part of the time at double the earnings/price ratio.

In screening investment opportunities, the position of the corporate decision maker is quite different from that of the individual investor in the stock market. The corporate executive requires a rate of return which will enable any new investment contemplated to earn on an average over its life more than double the current market rate of interest, if the new investment assets are to be brought under the corporate tent without lowering the yield on the pre-existing assets which have had their value "run up" on an earnings/price market evaluation. Corporate decision makers could not do this, however, unless other corporate decision makers were following a like pattern and unless corporate investment funds were limited enough in supply in relation to investment opportunities that this could be done. This would imply that if no investment opportunities exist which would yield at least double the current market rate of interest, funds are withheld by corporate executives. These executives thus tend to limit their new investment funds to those internally generated whenever investment opportunities do not yield double the market rate of interest instead of going out to borrow additional funds at, say, 5 per cent or they might even lend surplus funds at low rates in the short term market until longer term investment opportunities at the higher rate become available. Corporate executives might, on the other hand, decide to borrow outside funds if the investment opportunity were such as to promise a return greater than the customary profit return on corporate investment.

This would mean, for example, that unless, say, 12 per cent investment opportunities were available, corporate decision makers ordinarily would not "trade on the equity" by borrowing additional fixed interest funds even when such rates were no higher than, say, 5 per cent.[15] This is apparently so, even though individual investors are willing to go into the securities market and purchase common stocks to yield no more, and sometimes even less, than the going interest rate. This would mean that through the corporate mechanism funds could be invested at rates as high as 12 per cent, while individual investors who had to go through the corporate mechanism to have access to these 12 per cent opportunities could only do so by "buying into" this favored institutional arrangement at prices of common stocks which tended to equalize the earnings rate on their investment with the current market rate of interest, say, 5 per cent.

Some part of the difference between the market rate of interest and the corporate profit rate of return on investment might be accounted for if we regard the corporation as part of the mechanism which facilitates the investment process by individuals. One might, however, expect that the major portion of such costs would be included in costs before profits were computed. It seems possible that some of these costs do not get registered as deductions before corporate profits.

One might ask the absurd question, "Does this mean that by the act of incorporation an individual could double his return on his funds available

[15] Franco Modigliani and Merton H. Miller have explained this process by which a corporate executive compares the going rate of profit which can be generally expected on new corporate investments with that which the corporation can expect from a particular investment, instead of comparing the latter rate with the market rate of interest. "The Cost of Capital, Corporation Finance and The Theory of Investment," *The American Economic Review*, Vol. XLVIII, No. 3 (June 1958), particularly pp. 288–289.

CHART II. Source: *Historical Supplement to Federal Reserve Chart Book on Financial and Business Statistics*, Board of Governors of the Federal Reserve System, September 1960, p. 51.

for investment?" The answer must be that it is *not* the act of incorporation which counts, but instead, the whole institutional set-up of the typical large corporation, including its access to markets, its research organizations, its industrial knowhow, its executive talent, its financial connections and the like. It is this "infrastructure" of the corporations which is, so to say, in limited supply—not the quantity of funds which individual investors have to offer—otherwise the two rates would have to come together.[16] Individual investors have to bid up the prices of these corporate infrastructures, thus lowering the earnings/price ratios.[17]

Another possible explanation is that corporate rates of profit so much above market rates of interest are a function of the scale of production and that this accounts for the differential between what individuals can earn on investment and what large corporations can earn. The doctrine that high rates of corporate profits reflect the advantages of size would, however, require the additional assumption of "administered prices," oligopoly, price leadership, or perhaps only "workable competition" to explain why competition among large corporations did not reduce average profits to the "normal" level of the market rate of interest after provision for covering all costs. Recent convictions of officials of major corporations in the electrical machinery industry for violations of anti-trust laws perhaps lends substance to this assumption.[18]

If this were so, we would expect a spectrum of profit rates ranging from the highest earned by large corporations through medium rates earned by smaller corporations to the lowest rates earned by very small corporations, partnerships and individuals. Statistical evidence is inconclusive, but there is some evidence that this may be so. However, the variation between rates of profit earned by large and small corporations is not nearly great enough to account for the great gap between the market rate of interest and the corporate rate of profit return on investment.

Some idea of the variance in annual rates of profit on stockholders' equity in relation to asset size can be seen from the following tables for each quarter of 1949 and for each quarter of 1959. Although the tables are not strictly comparable, they both show a rough positive correlation between size and rates of profit. Roughly the same sort of correlation exists for the intervening years between 1949 and 1959.[19]

It should be noted that these data tell us nothing about the earnings/price ratios or the dividends/price ratios of large as compared with small corporations. One might expect that there would, in fact, be a negative correlation. A British study indicates that this is so for the United Kingdom.[20]

Investors who have large sums available and who have or can purchase expert knowledge and who have wide corporate connections probably can avail themselves of some of the same invest-

[16] Mr. Harold Linder, formerly Assistant Secretary for Economic Affairs, now Chairman of the Export-Import Bank, who possesses an intimate knowledge of corporate financial structures and investment patterns, has suggested the use of the term "infrastructure" to refer to the corporate organization as it performs services for the individual investor which he is not in a position to perform for himself. The term was coined in connection with the strategic and financial aspects of NATO logistics.

[17] It may be questioned why the components of the infrastructure, such as personal qualities of corporate executives, do not command a rental or wage price such that the difference between the corporate profit rate of return and the interest rate or the earnings/price ratio would disappear. The explanation may be that the entire complex has a value which cannot be imputed to individuals so that they can command a price for their "share" in it. Perhaps the rate of personal income tax on upper bracket income which lessens the motive for seeking very high salaries may be a factor here.

[18] In February 1961, high officials of substantially all the major companies producing heavy electrical equipment were sentenced to pay fines, and in some cases to jail terms, for long-continued violations of the anti-trust laws. The companies themselves were sentenced to pay large fines. These companies all entered pleas of guilty or no contention to the charges. *New York Times*, February 7, 1961.

[19] Data for 1949 computed from Table 6, p. 17, Federal Trade Commission and Securities and Exchange Commission, *Quarterly Industrial Financial Report Series, for all United States Manufacturing Corporations*, Fourth Quarter 1949.

Data for 1959 from Table 5, p. 11, Federal Trade Commission and Securities and Exchange Commission, *Quarterly Financial Report for Manufacturing Corporations*, Fourth Quarter 1959.

[20] E. V. Morgan and Cynthia Taylor, "Relationship Between Size and Yield of Joint Stock Companies," *Economica* (May 1957), pp. 116–127.

ment opportunities as can the corporations themselves. Sometimes this will involve the use of an existing closely controlled corporation, or it may involve a special package deal by which investment funds are furnished only on condition of special opportunity for equity participation. During periods of "tight money," such deals become common.

It is true that corporate executives cannot always count upon being able to obtain prices for products so that the going rate on investments will be as high as, say, 12 per cent after taxes. During recessions, corporate decision makers are not confronted by the happy choice of alternative investments paying 12 per cent after taxes. They may be faced with a situation in which momentarily there are no profits at all being earned and the prospect for future profits is quite uncertain in the face of what looks like over-capacity. When such a rate of return on corporate investment cannot be obtained, the corporate executive is likely to have a choice between what he considers "cut-throat competition" and idle facilities. When facilities are kept idle, although profits cannot be maintained at the previous level as volume shrinks, this idle capacity reflects the judgment of corporate decision makers that cutting of prices in which labor costs are so large a component is not a superior alternative to restricting production as a means of maximizing profits or minimizing losses. When and if governmental monetary and fiscal policy once more encourages general expansion of demand for goods and services, the former rates of profit return on investment can be resumed.

It may be that such a gap between interest rates and profit rates of return on investment could not persist indefinitely. Governmental antitrust suits, increased competition from abroad and labor union pressure for higher wages might squeeze this gap. "Incentive" stock options to corporate executives may take away some of the gap by transferring earnings from the corporation as an entity to corporate executives as individuals. Whether a substantial reduction in the gap

TABLE II

PROFIT RATIOS BY SIZE CLASS

Assets class (thousands of dollars)	Annual rate of return on stockholders' equity							
	Before Federal taxes				After Federal taxes			
	1Q 1949	2Q 1949	3Q 1949	4Q 1949	1Q 1949	2Q 1949	3Q 1949	4Q 1949
All sizes	20.4	16.8	18.8	18.0	12.8	10.4	12.0	11.6
1 to 249	14.4	10.4	14.0	0.4	8.8	4.8	8.4	−2.0
250 to 999	17.2	12.8	16.0	10.4	9.6	6.8	9.2	5.6
1,000 to 4,999	17.2	15.2	16.0	13.6	10.0	8.8	9.2	8.0
5,000 to 99,999	20.0	16.0	17.2	16.6	12.0	9.6	10.4	11.2
100,000 and over	22.4	18.8	30.8	20.8	14.4	12.0	13.6	14.0

TABLE III

ANNUAL RATES OF PROFIT ON STOCKHOLDERS' EQUITY, BY ASSET SIZE

(Percent)

Asset Size	Before Federal Income Taxes				After Taxes			
	1Q 1959	2Q 1959	3Q 1959	4Q 1959	1Q 1959	2Q 1955	3Q 1959	4Q 1959
All manufacturing corporations, except newspapers	18.7	23.1	17.1	16.8	10.0	12.5	9.6	9.6
Under $1 million	12.5	20.4	21.1	8.8	5.7	11.7	12.4	3.3
$1 million to $5 million	15.4	19.7	19.5	14.0	7.0	10.0	9.8	6.6
$5 million to $10 million	14.4	21.1	20.4	15.8	6.8	10.5	10.1	7.8
$10 million to $25 million	16.7	22.1	20.1	19.2	8.1	11.1	10.1	9.9
$25 million to $50 million	17.3	21.6	19.7	18.2	8.5	10.8	9.8	9.5
$50 million to $100 million	18.5	23.3	22.1	19.5	9.5	12.0	11.4	10.4
$100 million to $250 million	20.7	25.0	20.7	21.1	10.5	13.0	10.6	11.4
$250 million to $1,000 million	18.5	23.3	16.1	17.1	9.9	12.2	8.8	9.9
$1,000 million and over	21.7	24.5	12.1	15.9	12.9	14.3	8.6	10.7

would on balance stimulate, or, on the contrary, lessen the incentives for corporate investment is uncertain. The effect of such a reduction in the gap would appear to reduce the supply of internally generated corporate investment capital.

It is noteworthy that these corporate rates of profit return on investment of more than twice the market rate of interest, apparently do not reflect a long term upward trend in these rates. Ratchford and Han, reviewing the literature in connection with the incidence of the corporate income tax, quote Lerner and Hendricksen as showing a slight decline from 10.9 per cent in 1927–29 to 9.7 per cent in 1940–52, and Clendenin as showing a slight increase from 12.2 per cent in 1928–29 to 13.1 per cent in 1952–55.[21]

It is, however, remarkable that these relatively high corporate rates of profit on investment have been maintained in spite of the great increase in the corporate income tax since the pre-World War II period. During this period, the ratio of sales to total capital invested increased greatly.[22] Apparently this increase in the ratio of sales to invested capital enabled corporations to maintain the rate of profit return on investment while paying greatly increased taxes. This reflects a decrease in the capital-output ratio during the period.

Confining the analysis to distributive shares originating within corporate business, the share of profits in national income produced in the corporate sector *before taxes* remained almost unchanged at about 20 per cent during the same period. However, the share of profits *after taxes* declined from about 18 per cent to about 10 per cent.[23] Compensation of employees increased from slightly less than 75 per cent in 1921 to around 80 per cent in 1957. (Compensation of employees includes wages, salaries and supplements to wages and salaries.)

In summary, one may conclude that corporate investment decisions are not made in such a way that either the expected or the experienced rates of profit are customarily pushed to the point of equality with the market rate of interest. On the contrary, the corporate rate of profit return on investment is ordinarily maintained at more than twice the market rate of interest. Instead, investment is ordinarily pushed only to the point where the expected rate of profit returns is approximately that which could be earned on alternative corporate investments. While this point might indeed be referred to as the marginal efficiency of investment at a particular moment in time, its connection with anything which might be called a production function is assuredly tenuous. The failure to push investment to the point of coincidence with the market rate of interest appears to reside in part in the capability of a corporate economy of large scale production to prevent the erosive effects of unlimited competition from lowering the price of goods and services to the point where the corporate rate of return on investment would equal the market rate of interest.

Individual investors lacking direct access to investment opportunities paying the going corporate rate of profit, can avail themselves of the "infrastructure" of corporations through which such access can be secured only by bidding up the price of shares. There is a tendency for the earnings/price ratio to approach the market rate of interest, but the correspondence is not close and fluctuations away from the market rate of interest are wide. In a very crude fashion, one could say that something which might be called the individual investor's estimate of marginal efficiency of investment tends to be pushed to coincidence with the market rate of interest, but the departures from coincidence are wide and irregular.

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[21] Eugene M. Lerner and Eldon S. Hendricksen, "Federal Taxes on Corporate Income and the Rate of Return on Investment in Manufacturing, 1927 to 1952," *National Tax Journal*, VIII (September 1955), pp. 199, 202.

John C. Clendenin, "Effect of Corporate Income Taxes on Corporate Earnings," *Taxes*, XXXIV (June 1956), p. 396.

Both the above referred to in: B. U. Ratchford and P. B. Han, "The Burden of the Corporate Income Tax," *National Tax Journal*, Vol. X, No. 4 (December 1957), p. 316.

These estimates of corporate profit rates diverge somewhat from those which the writer has cited earlier in this article, computed from the quarterly financial reports for Manufacturing Corporations of the Federal Trade Commission and the Securities and Exchange Commission.

[22] Cottle and Whitman estimate the percentage of sales to total capital at 92 per cent in 1935 and at 187 per cent in 1955. *Op. cit.*, Table 7, p. 29.

[23] Data from *Productivity, Prices and Incomes*, Materials prepared for the Joint Economic Committee by the Committee Staff, 1957, p. 29, and from the *Survey of Current Business*, November 1959, p. 21.

ADAM SMITH'S THEORY OF SOCIAL SCIENCE*

JAMES F. BECKER

New York University

Language, it is true, is an Art, and a glorious one; whose influence extends over all the others, and in which finally all science whatever must centre.

John Horne Tooke.

Exhibiting a common trait of men of the Enlightenment, the classical economists were afflicted with a didactic impulse to set things right. They were, more often than not, ideological innovators, conceiving of themselves as secular priests, shouldering the responsibility for advancing the cause of humanity abandoned by a deistic God. Even the abuses and failures of the French Revolution scarcely dimmed their ardor. Despite intervening war and revolution the humanitarian impulse persisted and is as clear in John Stuart Mill's flirtation with the Comte-ian religion as it is in Adam Smith's observation on the function of political theory:

> . . . political disquisitions, if just and reasonable, and practicable, are of all the works of speculation the most useful. Even the weakest and the worst of them are not altogether without their utility. They serve at least to animate the public passions of men, and rouse them to seek out the means of promoting the happiness of society.[1]

An ardor so ubiquitous, an ambition so grand, challenges our understanding. A plurality of circumstances produce them, we may be sure. Yet one fairly simple premise, widely accepted in that age of remarkable scientific and political productivity, seems basic. We find that premise permeating Smith's advice on the modeling of argument:

> You will be more likely to persuade, if you describe the great system of public policy which procures these advantages, if you explain the connexions and dependencies of its several parts, their mutual subordination one to another, and their general subserviency to the happiness of the society; if you show how this system might be introduced into his own country, and what it is that hinders it from taking place there at present, how these obstructions might be removed, and all the several wheels of the machine of government be made to move with more harmony and smoothness, without grating upon one another, or mutually retarding one another's motions.[2]

Here is the grand strategy underlying the *Wealth of Nations*. It rests on the assumption that society, like the machine, can be *explained*.[3] This underlies what appears otherwise to be merely strategic advice to the rhetorician. From this postulate follows something of far greater significance to economics than a pointing out of the transient virtues of the mechanical analogue. If society can be explained, in the scientific sense of that term, then one must surely look and see what are "the several parts (and) their mutual subordination to one another." The ideal method of economic inquiry is the empirical.

This allegiance to empirical method, as Schumpeter notes,[4] characterizes the classical as against the preclassical economics. From Smith on, this allegiance has seldom been sworn casually or cavalierly adhered to. The classicist actively seeks to discover what are his scientific as well as social obligations. What he finds is required of him, he attempts to observe. And what classicism produces, as a consequence, are the beginnings of an analytic discipline whose fruits might permit of some satisfaction of humanitarian aspirations.

* The author is indebted to Professor J. J. Spengler, Duke University, for his valuable criticism and comment.

[1] Adam Smith, *The Theory of Moral Sentiments*, 10th ed., London, 1804, p. 391.

[2] *Ibid.*, p. 390.

[3] I mean by scientific explanation a system of statements and propositions including, (1) statements of initial or boundary conditions, (2) lawlike, universal propositions, and (3) a set of conclusions, derived from statements of types #1 and #2. The system must be logically consistent and empirically relevant. Whether it is described wholly linguistically, or in part in logical or mathematical symbols I take to be a matter of notational rather than substantial issue. For discussion and references see R. B. Braithwaite, *Scientific Explanation* (Cambridge: Cambridge University Press, 1955).

[4] J. Schumpeter, *History of Economic Analysis* (New York: Oxford University Press, 1954), p. 535.

Of course there were those before Smith who possessed the full complement of empiricist intentions and sought simultaneously to advance the causes of humanity. What Smith understood, and what adds to his stature, is that there are certain definite conditions to be satisfied if both aspirations are to be realized concurrently. The scientific and the social enterprises are related. His theory of social science marks an attempt to define this relationship with precision. The fact that he made the attempt is itself remarkable; that he had considerable success in the venture is even more so. There is much in his theory of social science that is still useful; indeed, his principal point of emphasis is even today crucial to establishing a satisfactory relationship between science and society.

I. SMITH ON "SYSTEM"

In the hierarchy of goals espoused by the scientist as such, "explanation" is not invariably at the very top, though generally it is near it.[5] However, its significance stems not only from its exalted position within the array of objectives, but from the circumstance that a rather more than less operational notion of it often prevails. This is precisely so with Smith.

He sees the terminus of successful inquiry in the conquest of wonder and surprise occasioned by the unexplained: "... it is the end of philosophy to allay that wonder, which either the unusual or seemingly disjointed appearances of nature excite..."[6] This observation rests upon his considerable knowledge of the historical successes of the natural or scientific philosophy in explaining phenomena,[7] and he proceeds to consider the specific instruments of these achievements. Natural philosophy, he observes, "... never triumphs so much, as when, in order to connect together a few, in themselves, perhaps, inconsiderable objects, she has, if I may say so, created another constitution of things, more natural, indeed, and such as the imagination can more easily attend to, but more new, more contrary to common opinion and expectation, than any of those appearances themselves."[8] The wonder of natural philosophy is that it succeeds in allaying wonder through the medium of an artificial device, the explanation.

Elsewhere he gives other hints as to the nature of this device and the means to its construction. It is to be built "... by representing the invisible chains which bind together all these disjointed objects...." In this way the natural philosophy "endeavors to introduce order into the chaos of jarring and discordant appearances."[9] And yet again, in a famous passage, he describes his vision:

> Systems in many respects resemble machines. A machine is a little system created to perform, as well as to connect together in reality, those different movements and effects which the artist has occasion for. A system is an imaginary machine invented to connect together in fancy those different movements and effects which are already in reality performed.[10]

His terms of discourse here appear to be more metaphoric than precise and concrete, yet they convey some semblance of meaning. We may even think that we understand precisely what he means. But do we? There is little doubt that he advises us to construct an imaginative and fanciful device. This clue to his conception is invaluable. We can be reasonably sure that he is driving at the same end as that Newtonian enthusiast, Colin Maclaurin, an Edinburgh mathematician, who, before Smith, put the aim quite succinctly: "To describe the phenomena of nature, to explain their causes... and to inquire into the whole constitution of the universe, is the business of natural philosophy."[11] Still, we must be cautious. In trying to see precisely what Smith had in mind we must not leap too quickly, substituting our own preconceptions for his own "system." It is his understanding that must be probed.

II. THE LINGUISTIC ELEMENTS OF "SYSTEM"

What lay behind Smith's assumption that the economy could be explained? Of what did he

[5] "The word *explanation* occurs so continually and holds so important a place in philosophy that a little time spent in fixing the meaning of it will be profitably employed." John Stuart Mill, *A System of Logic*, 8th ed. (New York: Longmans, Green and Co., 1930), p. 305.

[6] Adam Smith, *Works of Adam Smith*, Dugald Stewart, editor, London, 1811, V. 5, p. 133. All subsequent references to *Works* are to V. 5.

[7] See "The Principles Which Lead and Direct Philosophical Enquiries, Illustrated by the History of Astronomy," *Ibid.*, pp. 53–190.

[8] *Ibid.*, p. 133.

[9] *Ibid.*, p. 80.

[10] *Ibid.*, p. 116.

[11] Cited by C. L. Becker, *The Heavenly City of the Eighteenth Century Philosophers* (New Haven, Conn.: Yale University Press, 1932), p. 62.

suppose the imaginary machine to be composed? On what grounds did he think that its elements would support the enormous burden to be placed upon them of dissolving our surprise? Could questions so fundamental be overlooked? Possibly, but not by Smith. Some part of his answers are contained in his "Considerations" concerning the origin of language. Others are contained in his earlier writing on linguistic topics.[12] While there is little evidence that these works had appreciable direct influence on his successors, they reveal a great deal of what Smith himself thought about the possibilities of the scientific enterprise. Because these analyses support his ambitions, their indirect influence is probably considerable.

In the hypothetical historical vein to which he often reverts, Smith in "Considerations" describes the evolution of language along a line from particularity to generality, from simplicity to complexity, and from concreteness to abstraction. On the face of it, these are Locke's ideological sequences all over again, but with a significant difference. Now it is language, and not simply ideas, that follows these progressions, and it is language, as he sees it, that must be taken as the starting point in any analysis either of concrete or ideological phenomena. The analysis of language must be undertaken in order to perceive the connection between a developing language and the progress of society, for he assumes that these are related.

He begins with substantive nouns. These were, "in the original rude and primitive state," the proper names of individual things. This was a state far removed from the linguistically sophisticated present, and mankind did not long remain in that linguistically primitive state. In order to explain man's advance towards better things, Smith postulates what might be called a propensity to classify.[13] This propensity extends the scope of nouns substantive from their original rude, singular and particular designations, to their present general designations of classes and categories. The power of language to propel science and the society whose progress depends upon science, is ultimately based on men's capacity to generalize. This capacity, in turn, is a gift that the developed language bestows upon its users.

Smith sees this natural disposition to classify as one of the primary forces behind the evolution of language, and he sees it operating within a setting of psychological and physical circumstances to produce the changes in the language that we observe historically. The first of the circumstances that he cites is the developing, though always circumscribed, perceptual capacity of the human organism, presumably obedient to biological laws. The second is the limited capacity of intelligence to retain and use effectively a primitive language whose vocabulary would otherwise multiply to infinity with the onrush of events, each of which cries for a label. Within these constraints, the propensity to classify produces a language of general terms.

What strikes us most forcibly at this juncture in his theorizing is the extraordinary *formal* resemblance between this early theory and subsequent theories of political economy, and especially his own. He enunciates a kind of principle of scarcity in which men's always finite and biologically confined intellects define the one pole, while men's perceptual capacities, swelling under the impress of an improving language, constitute the other. A reconciliation between these opposing forces of social circumstance, the confining and the liberating, is effected through the medium of changes in the content or structure of the language. Such a change is the generalizing faculty of nouns substantive.

Smith seems to feel that there is a dynamic interactive development between these poles, even though our perceptual capacities must always lag behind linguistic improvement. It is only after a time that the short-run disequilibrium between the pace of events and the quality of the language is dissipated. But eventually men can

[12] "Considerations Concerning the First Formation of Languages," *Works*, pp. 1–48, was first appended to the second edition of the *Theory of Moral Sentiments* (1761). It is not the first intimation we have that linguistics, as Dugald Stewart puts it, "seems, in a peculiar degree, to have interested Mr. Smith's curiosity" (*Works*, p. 447). Smith's publishing debut in the *Edinburgh Review* (1755) was a review of Samuel Johnson's *Dictionary*. This was followed in the same year by a letter to the editors of the *Review*, part of whose contents are described below, Part III. We can assume tentatively a six year interval, 1755–61, during which he was more or less continuously concerned with linguistics.

[13] ". . . *mankind are naturally disposed* to give to one object the name of any other, which nearly resembles it, and thus to denominate a multitude by which originally was intended to express an individual." *Ibid.*, p. 6. Italics mine.

be expected to grapple successfully with their predicament. The language does evolve, replete with general terms and concepts of enormous advantage to science and society.

While reflecting the propensity to categorize or classify, language bears still another mark of man's determination to comprehend his universe. This second feature also plays a central role in the promotion of all progress. The variety of events is infinite, he tells us, and the elemental terms of the language (the nouns substantive) would nevertheless multiply to unmanageable proportions were it not for this additional propensity. We can, he assures us, break up events into their "metaphysical elements." He assumes, though not explicitly, that events will turn out to have similar causes, or classes of causes, and so, by a process analagous to but not precisely the same as that of classification, we may cope with nature's infinite variety.

There is, he declares, a propensity to analyze which, like that of classifying, is very largely a natural response to circumstance.[14] This propensity, too, leaves its impress upon the structure and content of language, rendering it gradually more suitable for analyzing as well as generalizing. True, language becomes structurally more complex in time, but this always carries with it the great compensating advantage that it becomes, "... more coherent, more connected, more easily retained and comprehended."[15] Again, a progressively more powerful language ministers to the natural deficiencies of our finite intellects.

The reader of "Considerations" is struck by the fact that Smith is no whit disturbed to find that, paradoxically, the employment of metaphysical, i.e., general, terms leads us irretrievably into realms of abstraction whenever we seek to explain our universe empirically. Rather than recoil in trepidation at the results of his analysis thus far, Smith proceeds to note still another way in which the metaphysical element must enter into our discourse. This is in the description of relations.

The sign of the relation is the preposition, he notes, whose invention follows upon man's attainment of a relatively high capacity for abstract thinking.[16] By this extraordinary device we are enabled to express general and abstract connections between substantive events or objects. Empiricist that he is, he is most careful to observe that the connections themselves are never and can never be directly perceived: "... relations never are the ... objects of our external senses."[17] He has the extraordinary sophistication to see that it is the signs of the relations, and the signs only, that are sensed directly. Moreover, relationship per se is never dependent upon particular objects; the most remarkable of prepositions is "of" denoting relationship in general. In his view, "of" assumes a position along with the verb "to be" and the concept of number ("... one of the most abstract and metaphysical ideas ..."), marking a high point in the development of language, and, consequently, man's capacity to comprehend reality. There is no Humean scepticism here, but only the optimism of a convinced theorist. Hume's doubts concerning the possibility of empirical knowledge have been exorcised through a theory of language.

Smith looked at the world much in the manner of the great artists of the 17th century, wanting to construct a true image of nature, with language replacing paint and brush as the essential medium. Like these artists, he was in revolt against the mannerism and formalism of earlier times. A return to what was just and reasonable in nature was called for. That and only that. His object was not direct reproduction of nature in each and every detail—the linguistic character of the task of generalizing and describing relations prohibits this foolish aspiration—but rather simplification in order to bring out the essence of the simple and

[14] "... in the beginnings of language, men seem to have attempted to express every particular event, which they had occasion to take notice of, by a particular word, which expressed at once the whole of that event. But as the number of words must, in this case have become really infinite, in consequence of the really infinite variety of events, *men found themselves partly compelled by necessity, and partly conducted by nature*, to divide every event into what may be called its metaphysical elements, and institute words, which should denote not so much the events as the elements of which they were composed." *Ibid.*, pp. 31–32. Italics mine.

[15] *Ibid.*, p. 32.

[16] "But before men could institute a word which signifies a relation, and nothing but a relation, they must have been able, in some measure, to consider this relation abstractedly from the related objects; since the idea of those objects does not, in any respect, enter into the signification of the preposition. The invention of such a word, therefore, must have required a considerable degree of abstraction." *Ibid.*, p. 16.

[17] *Ibid.* And see previous note.

natural systems of science. His theory of language reflects the view that systematizing is an undertaking of great delicacy and complexity. Systematizing (explaining) entails the description of relations as well as the description of objects and events. Only by combining the results of our endeavors to classify and relate can we finally achieve the requisite knowledge of "... those different movements and effects which are already in reality performed."

Thus Smith recognized what are now conceded to be the two essential processes of theory construction, concept formation and the description of hypothetical relations. He believed that these activities could proceed at a pace limited only by the capacity of the language to serve our needs. Evidently he believed also that this pace could be accelerated by an analysis of language itself.

He thought of his imaginary machine as composed of linguistic elements, and his understanding of the nature of these elements was sufficient for his own purposes as a scientist. His analysis must have led him to think that a project such as the *Wealth of Nations* could in principle meet with success. By the early 1760's, he had in his possession the scientific precepts that he required. They forbade that he should be under the illusion that he could deal directly with reality in describing the economy, either in postulating economic relationships or in classifying the objects and entities of his system. They forbade that he confuse the objects and events related with the relationships themselves, and so helped him to avoid a naive empiricism and its metaphoric "causes." They sanctioned the terminological and sentential abstractions that would have to be the building blocks of any theory. They endorsed his belief that abstraction and empirical realism are not irreconcilably opposed, provided that their respective natures are understood. Thus they support what Dugald Stewart cites as Smith's methodological maxim:

> A system of natural philosophy may appear very plausible, and be for a long time very generally received in the world, and yet have no foundation in nature; but the author who should assign as the cause of any natural sentiment, some principle which neither had any connection with it, nor resembled any other principle which had some connection, would appear absurd and ridiculous to the most injudicious and inexperienced reader.[18]

[18] *Ibid.*, p. 445.

Indeed this is an empirical maxim and Smith grounds it squarely on his theory of language which promises that a theoretical science can be an empirical science and so supports the opinion that system building is the first step on the way to humanitarian reform.

III. LINGUISTICS AND THE THEORY OF SCIENCE

Smith's "peculiar" concern (as Stewart described it) for linguistics entails a more general view than has been made explicit so far, both of the possibilities for science inherent in language and of the role of language and science in relation to reform. As he matures as a scholar, his appreciation for the powers of language dilates rather than shrinks, if we may take the tenor of his terminal analysis in "Considerations" as an indicator. However, even in his earliest writing on the subject there is evidence that he believes that language plays a decisive role in shaping thought. In his early letter to the editors of the *Edinburgh Review* he extolls English fulsomely as a vehicle of "imagination, genius and invention.... "[19] Most significantly, from the standpoint of his own scientific productivity, he declares that there is a definite connection between the language and the creative capacities of English poets and scientists. He looks upon Newton and Shakespeare as correlative beneficiaries of a common legacy.

The bequest varies from country to country for, as he observes, depending upon the special features of each language, various species of thought and intellect are produced. In his comparison of the characteristic traits of national intelligences, French, German and English, the last is marked by its creativity, the first by its orderliness. "... Imagination, genius and invention," he writes, "seem to be talents of the English; taste, judgment, propriety and order, of the French."[20] The German, laboring under the handicap of an undeveloped language, shows only such pedestrian fruits as "plain judgment joined to labour and assiduity" can produce. As one would expect of a theorist, it is the more esoteric capacities of French and English that interest him most. His pairing of English and French intellectual traits is remarkably similar to, and no less perceptive than, the famous comparison

[19] *Ibid.*, p. 596.
[20] *Ibid.*

of the French physicist, Pierre Duhem,[21] a century and a half later. On a somewhat more invidious plane, Duhem regards the English mind as "ample but shallow" and notable for the "... meagre way in which it makes abstractions and generalizations...." The French is, of course, "strong and accurate." Duhem nevertheless concedes that the English "imaginatively makes (use) of concrete collections" in its construction and exposition of theories, although he deplores its tendency to fall back upon picturesque and homely imagery, which is likely to be confused with scientific truth.

Although Smith, too, notes the weakness of the English in arranging discoveries and ordering them logically, and particularly in developing a linguistic exposition of the Newtonian system, he feels that the English contribution to "morals, metaphysics, and part of the abstract sciences" has been of a superior order.[22] His faith in the powers of language leads him to suggest, in a somewhat guarded fashion, that there will be still further marked gains in the field of moral science for which the peculiar capacities of the English language will be largely responsible. He clearly intends this to be a prediction rather than a mere assertion of personal bravura. However, it is evident that he has found language to be (to paraphrase Schumpeter) the great social storehouse of the means of scientific accomplishment.

Indeed, the advantage of his account of comparative intellectual traits over that of Duhem's lies in this quite definite if unparticularized assignment of causality to the linguistic factor. Once more his uncanny catholicity of scholarship, while seeming to carry him in directions far removed from political economy, yields a harvest of insight into the logic of scientific inquiry. This sensitivity to the language, a trait common to so many great economists, is closely related to his accomplishments as a scientist. It served a psychological as well as a logical function in relation to his work, providing not only the insurance that explanation was within his powers, but also the assurance that he would be able to find one day those concepts and hypotheses, and the means for binding them together, that justice and reason alike would sanction.

He conceived of a science as a system of syntactically related theories. His theory of language is a statement of how he thought such a system was to be built. It is a theory of theories, or a theory of science. Now "theory of science" is ambiguous. It may refer either to an account of the sources of creativity and invention, of the conditions, institutional and otherwise, from which theoretical systems are thought to emerge, and a part of Smith's theory of language belongs under this head. Or, the phrase may refer to an account of the criteria that govern definition, conceptual clarity, empirical adequacy, and so on. From whichever of these two angles one views Smith's theory, the tentative and exploratory quality of his venture is apparent.

From either angle scientific issues are evident that were shortly to trouble his classical followers. In regard to the definition and classification of economic entities, he does not seem to see that phenomena admit of an infinite number of possible explanations and that the problem of fixing upon criteria to distinguish the preferable from the less preferable or inadequate is of major importance. He was undisturbed by the possibility that even scientific men might refuse to be governed by rational considerations, or that, so governed, their conceptions of what is rational might differ. There is only the intimation, to be found more in his obvious concern for linguistics than in his analysis proper, that a search for operational guides will carry one into an analysis of signs. There is no doubting his conviction that the advance of language advances knowledge.

As a result, his propensities to analyze and classify, like the forces of competition, are assumed to operate automatically in separating theoretical wheat from chaff. There is only an invisible hand to help the scientist discard the dry husks of his own prejudice, or, more kindly, to help him to decide what is strictly relevant and what is not, what is worth explaining and what is not. One must remember, of course, that Smith's ambitions as a political economist were large. He wished to lay down the framework of an all-encompassing theory, something comparable in scope to Newtonian mechanics. Since there was no competing system in view, this problem of the selective criteria did not seem to be of vital moment; the logic of theoretical testing was easy to ignore. With the Utilitarian generation, however, this shortcoming of Smith's philosophy begins to be more serious. Both Jeremy Bentham and

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[21] P. Duhem, *The Aim and Structure of Physcial Theory* (Princeton, N. J.: Princeton University Press, 1954), especially Ch. IV.

[22] *Works*, p. 571.

James Mill were forced subsequently to search for criteria for terminological selection and for the testing of laws. Their findings are summarized in their theories of fictions and associationist psychology.[23] They too fall back heavily upon linguistics for, after Smith, a growing political irrationality, whose primary ally was a systematic distortion of language, provoked a vigorous quest for a way out of the philosophic box in which Smith had left them.

Second, while Smith thinks that language will suffice for the much needed description of social relationships, he assumes that logic in discourse is insured simply by adherence to rules of grammar and literary convention. A natural law (given the theorist's good intentions) ties language to logic; this too is part of his invisible hand in his philosophy of science. It was not until Jevons, really, that the full potentialities of formal logic for scientific testing began to be understood in the English economic tradition. Nevertheless, in the long interval from Smith to Jevons and John Stuart Mill, a classical theory of science developed that dealt extensively with the techniques and criteria of science building, relying for its specific formulations upon the analysis of signs and symbols. While many of the analysts after Smith penetrated more deeply than he into one or another aspect of the problem, Smith's propensities to classify and analyze betoken a breadth of view that others usually lacked. And he was the first, after all, to see exactly what the focal point of analysis had to be.

Like his economics, Smith's theory of science is very much a product of 18th century optimism, an optimism that postulated a rare reasonableness in attitude and a lack of duplicity and complexity in motivation on the part of the investigator. His propensities—how one would wish them to be universal among scientists!—presuppose a purity of interest and intent that are in practice often confounded by political exigency and circumstance. The theory also presupposes a neat ability as well as willingness to adapt linguistic to scientific and social ends. The evolution of language that he anticipated assumes a widespread understanding of the fundamental importance of language both to science and society. For these reasons, Smith's theory of social science, resting upon his theory of language, arouses qualms and misgivings. The longer we think about it, the more serious do its limitations seem.

[23] Cf. C. K. Ogden's *Bentham's Theory of Fictions* (London: K. Paul, Trench, Trubner and Co., 1932), and James Mill, *Analysis of the Phenomena of the Human Mind*, 2 vols., London, 1829.

IV. HOW SCIENCE CAN BE SOCIAL

Throughout his "Considerations" Smith assumes that our ability to perceive what is, and to order ourselves according to what ought to be, depends upon a general improvement in the powers of language; that is, improvement in its classificatory and analytical potentials. He looked forward to a state in which principles of rationality would effectively govern social life through the medium of communication. The progressive social state is never simply and solely a consequence of operative economic or political forces, but depends upon the working of the propensities of rationality under given physical and social conditions.

This theory of social science with its postulates of individual rationality is a theory that the passage of time has rendered partially obsolete for the simple reason that its postulates no longer conform to the conditions of contemporary life. This does not mean that it is useless. It still offers a starting point for inquiry into those potent forces that have disrupted the Smithian equilibrium between science and society, between schools of scientists and the various interest groups whose uncoordinate tongues constitute the "babelization" (Bentham called it) of life today. The theory is not without value, and is dangerous only if we try to place upon it some burden that it is incapable of supporting. If, for instance, one advocates some system of political economy that assumes the effective working of the propensities to classify and analyze within such a "babelized" community, this is surely asking too much. It is possible that Smith sensed the practical limitations of his theory, which would explain the normative tenor of his argument as well as, say, his support of public education which is now seen to have its origins in something far more concrete than simply the general tendencies of a democratic age.

For his own time, his theory's basic assumptions may have offered a reasonable approximation to prevailing conditions. There was a degree of intimacy and tolerance within the academic community itself; there was hope for cooperation between that community and the community at large. The scholar of his day lived under conditions and terms of inquiry which were compatible

with the grandest scholastic ambitions, ambitions not yet subject to wholesale distortion by market and other pressures. It was reasonable to assume that propensities of rationality could prevail, producing a language and a mode of using it that would progressively enlighten both scientific and public opinion, provided that the public was educated. Knowing that the world was far from perfect, Smith nevertheless knew what he wanted to see and what conditions had to be fulfilled if science and society were to move apace.

Thus he asserts not only that there is, but that there has to be a common bond between the scientific and the non-scientific community. Science must be joined to the world of work-a-day affairs through an instrument that is absolutely essential to rational organization by common consent, the medium of communication. The language of the scientist must never be wholly compartmentalized from that of the public at large, for this would mean a break in a relationship that is fundamental to all progress.

It is unfortunate that he did not investigate this relationship between the common language of the educated, his vehicle of progress, and the everyday language of the public. One would like to have had his opinion on the question of how far one could safely go in modifying the former language, or under what conditions these modifications could safely be made. One would also like to know just how far behind the language of the scientist the ordinary language of the public at large could safely be allowed to lag. The growing economy and power in scientific language, to which his "Considerations" points,[34] itself presages one potential source of conflict between scientific and common usage. For instance, the mathematization of the language of science is a logical extension of his theory. It is unfortunate that he did not attempt to investigate such forces, potentially disruptive of the equilibrium that he postulated the counterparts in his theory of science to monopoly and arbitrary government in his theory of political economy.

He did not do this because he could not. Had he contemplated the strength of the forces of disequilibrium, the tendencies to irrationality already beginning to assert themselves in his own day, he could not have made his assumption of automaticity. And without this assumption, given his conception of social science, the invisible hand of his theory of political economy becomes impossible, for it assumes a pure rationality on the part of all. And without the invisible hand of his political economy? What then? Perhaps it is just as well that he forged ahead, ignoring the weight of the forces of irrationality. The progress of political economy might otherwise have been delayed.

Forces of linguistic disequilibrium can come from either of two directions. First, they might come from the side of the public at large, which might not want to be educated. What Smith would have had to say of possible cures for semi-literacy, the fulcrum from which powerful governmental and private interests nowadays try so persistently to tip the world in their favor, is in part not too difficult to guess. He always excepted education from his rule of laissez faire. We can safely assume that he would launch his cures from this angle, come what may. But the "new illiteracy" is not the sole agent of disequilibrium.

Gradually it is becoming clearer that the role and function of the scientist is now almost precisely opposite to what Smith thought that it was and hoped that it would be. So frequently now the scientist fails to take his cues from society's needs, taking them rather from the amplified neuroticisms of the semi-literate. If the latter want missiles, he provides them. Ridden by the hags of national animosity, group pressure and prejudice, all attenuated by the stimulus of ideological cant, much of modern science finds its orientation, its work and its rewards cut out for it. From the head of the phalanx it has fallen to the rear, an appendage of the mass misguided. The common language of Shakespeare, Newton and Smith has become so uncommon, even in Smith's own political economy, that the role of social leadership that Smith assigned to science is almost beyond recapturing.

Since Smith, economic science, for example, has witnessed the rise and decline of theoretical systems in a fashion similar to the familiar rise and decline of theories in physical science. It is true, to borrow Ernst Mach's metaphor, that our older theories continue to wither like dead leaves upon the tree. Unhappily, for all their transparency, they do not wholly fall away, and many men stand transfixed by these decayed symbols of former times. Linguistic conventions, hallmarks of yesterday's theories, muddle our think-

[34] *Works*, pp. 31–32.

ing and prevent us from identifying, let alone analyzing, our primary problems. What J. K. Galbraith calls the "economy of the central tradition"[25] is primarily a linguistic compendium. Through it we peer, as from a window in a darkened room, seeing only so much of the world as our own narrow aperture permits. For some, the view is pretty limited. As Smith anticipated, language is the frame that sooner or later fixes the scope of our vision, and Marxian, Fisherian, Marshallian and Keynesian tongues contribute to frustration of social goals in varying degree. But he did not foresee this regrettable compartmentalization, fostered and maintained by linguistic cultism, with all cultists bound by their preferred ideological chains.

What Smith did see, and what his theory of social science clearly bears witness to, is that a general facility in the common language is hostile to whatever particular obstacles might be thrown up, from whatever quarter, to the identification of social problems and to the formulation of prescriptions for their dissolution. Common language fosters theory building, that is, a description in new terms of new relationships, new classifications and new generalizations. This language is inherently hostile, as Smith himself was hostile, not only to particular linguistic conventions, but to the orthodox prescriptions and analyses of "school" philosophies and doctrines. Just as his theory of science licenses theory building, it forbids the practice of formulating private languages, "scientific" or otherwise, that are then taken to mark off the boundaries of what is proper from what is improper for discussion, for political program or for social organization.

Smith's most general assumption was that progressive changes in the content as well as structure of language are corollaries of an advancing science. There is here an inherent animosity to the symbolic conventions of a receding past. The assumption embodies an abiding hostility to conceptual classes and categories, as well as to the generalizations of yesterday, in terms of which yesterday's problems were defined, and in terms of which yesterday's solutions were formulated. There is in science, and there must be in society as well, a *linguistic pace* to be kept, or we shall be led by conventions of linguistic "use and wont" to think that our problems have not changed, while in the meantime the world limps on as best it can without us. Classifying and analyzing are continuing activities in science. This was Smith's position, and it was this premise that helped to inspire his own economics.

He was not primarily engaged in theoretical testing, in the logic of verification, in confrontation, and his theory of science reflects this orientation. None of this implies, certainly, that he was in any way disrespectful of the logical, empirical or esthetic criteria that are conventionally applied to theoretical systems in the testing process. On the contrary, it is an inescapable fact that he formulated a theory of science that reveals his determination to thread his way past the pitfalls of metaphysics in the ordinary and non-philosophic sense of that term. Certainly he was never disturbed that the analytic tool that he had to employ was the common language, for he intended to observe the rules of its employment, believing that these would support his needs for consistency and empirical relevance. He was not naive in this, but more aware of the difficulties than many of our own contemporaries.

He did see that there is in science a problem of striking a balance between whatever uses of the language are essential to scientific creativity, especially in identifying and describing new problems, and the theorist's commitment to avoid the disastrous edge of metaphysical speculation. Common language was the only medium that could simultaneously satisfy both demands.

Until the criteria of appropriate pace are more easily discernible, so that all who are mistaken can be shown precisely where they err, we might do worse than turn to Smith's own genii of the imagination, especially during times when the need for economic and political reform is pressing. Then, if socially useful projects of programatic reform can possibly be put together, the essential parts for their construction may still be found where Smith was inclined to look for them. For political economy today, perhaps most of the parts are already extant, in the economic writings of those who, like Smith, manage best to keep the pace and know best how to use the language.

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[25] J. K. Galbraith, *The Affluent Society* (Boston: Houghton, Mifflin Company, 1958).

THE METHODOLOGY OF THE PRICE SUPPORT PROGRAM FOR WHEAT

FRANK C. GENOVESE

Babson Institute of Business Administration

The Board of Research of Babson Institute has conducted two studies under contract with the U.S. Department of Agriculture. (1) A study of the impact of the merchandising of beef by Federal Grade on the market organization and structure and merchandising practices in the distribution of beef, and (2) a study of the factors influencing flour mill location and the proportion of capacity utilized.

The results of these two contract studies were used in preparing two Department publications: (1) *Economic Effects of U.S. Grades for Beef*, Marketing Research Report No. 298, January 1959, and (2) *Factors Influencing Competition Among Flour Mills in the Pacific Slope States*, Marketing Research Report No. 362, August 1959.

The author states that this article is an outgrowth of these contracts and has requested permission for publication. Permission to publish is granted with the stipulation that this statement accompany publication and with the understanding that this article is not to be construed as a fulfillment of contract requirements. The Department assumes no responsibility for statements in this article because it considers the relationship to the contract studies to be tenuous, and it does not concur in some of the major assumptions and conclusions.

I. INTRODUCTION

It is common knowledge that the federal government significantly influences American agriculture. The broad scope of these activities ranges from the mere setting of standards for the grade labelling of fresh beef, the use or non-use of which is voluntary, to outright price making and production control for some commodities.[1]

This present article presents information not previously available concerning government influence over wheat prices.[2] It explains the methods used to establish the county price support rates on wheat in counties about the country. Then it points out in analytical fashion how certain distortions in the pricing and marketing structure of wheat can result from these methods. The influence of subsidies in connection with government export programs is briefly mentioned in order to show the bearing these subsidies have on the price-making process and on the marketing of wheat. Finally, empirical data and historical experience dealing with one section of the country are examined and evidence is found that these distortions have actually materialized.

While possible shortcomings of present methods of setting support rates and subsidies are pointed up in what follows, the author engages in no advocacy. Nor does he intend any reflection on governmental personnel saddled with the onerous and technically difficult task of attempting to erect a fair and flexible system of pricing which protects the farmer and yet neither grieviously injures nor unduly benefits processors and handlers of wheat. The article then should be taken for what it is, a technical exploration of a virgin segment of "Government and Business."

II. LEGAL DIRECTIVES IN THE PRICING OF WHEAT

Virtually every general introductory economics textbook explains that price supports on basic

[1] Willard F. Williams, Earl K. Bowen, and Frank C. Genovese, *Economic Effects of U.S. Grades For Beef*, Marketing Research Report No. 298, Agricultural Marketing Service, Marketing Research Division, United States Department of Agriculture, Washington, U.S. Government Printing Office, 1959. *Factors Influencing Competition Among Flour Mills in the Pacific Slope States*, by V. John Brensike, Marketing Research Report No. 362, Agricultural Marketing Service, Marketing Research Division, United States Department of Agriculture, Washington, U.S. Government Printing Office, 1959. These studies were conducted in conjunction with the Board of Research of Babson Institute of Business Administration and its Director, Mr. Walter H. Carpenter.

[2] Information contained in this article was gained during the conduct of the field research in connection with the second study cited in footnote 1.

agricultural commodities (corn, cotton, wheat, rice, tobacco and peanuts) are determined by a parity formula of the ratio between "prices received" and "prices paid" by farmers during given base periods.[3] Thus, if farmers are to receive at least one hundred per cent of parity the Commodity Stabilization Service would seek to maintain current selling prices of these basic commodities at or above the level which would give them the same relative purchasing power they had during the base period.[4]

That this basic determination of parity prices is no simple task will be apparent at once. The selection of the items to be included in the "prices paid," their pricing, and their relative weighting all involve complicated problems. Another difficult task is involved in the determination of the proportions or weighting of basic agricultural crops whose prices are to be included in the numerator or "prices received" portion of the formula.[5]

The present paper takes this basic level for wheat as given and shows how it is applied to determine the basic floor prices, and sometimes prices above that floor which are the *actual prices* farmers about the country receive.

The Agricultural Act of 1949 states that appropriate adjustments in loan rates for wheat are to be made for grade, quality, location or other factors. However, it does not prescribe the specific procedures which must be used in determining specific loan differentials. These are to be determined by the Department of Agriculture insofar as practical, in such a manner that the average price support for the commodity will, on the basis of the anticipated incidence of such factors, be equal to the national average price support level. The methods that the Department of Agriculture has developed for determining these differences will now be explained and illustrated by a simple hypothetical numerical example.

[3] The base period for all these commodities save tobacco is August 1909 through July 1914.

[4] The *Agricultural Act of 1949* specifies that the national average price support level or rate for wheat shall be set in terms of a percentage of parity. This percentage is to be determined by comparing the "indicated supply" available for a given marketing year and "normal supply."

[5] There is a great deal of literature which deals with parity, cp. Orpha Cummings, *Parity Price, Comparable Price, and Parity Income*, A Selected Bibliography, 2nd. ed. (Berkeley, Calif.: University of California, 1951).

III. THE METHODOLOGY OF DETERMINING PRICE SUPPORT RATES

The Department of Agriculture uses terminals as basis points for the patterns of price supports it declares. The method can be called an inter-terminal differential method; the terminals used are Kansas City, Kansas, Minneapolis, Portland, Oregon, San Francisco, Fort Worth, Chicago and Baltimore. In order to clearly and simply present the methodology used Fig. 1 depicts only two terminal cities, Portland and Kansas City. Portland is the key to county support rates in the Pacific Northwest.

Also shown are five counties, A, B, C, D, and E. Beside each of the counties in Fig. 1 there is recorded in the ellipsis assumed averages of the last 5 years wheat production of the counties. With this illustration and these beginning assumptions, the procedures for determining support rates are explained below.

1. The parity price for wheat is, let us assume, $2.40. Assuming also that the percentage of parity at which wheat is to be supported is 80 percent, a national average price support level of $1.92 is proclaimed for the marketing year, July 1—June 30.

2. Additions are made to this national average support level to determine the preliminary Kansas City support rate as follows: 600 bushels of wheat are raised in County E and the cost of moving these to Kansas City amounts to $600 \times 31¢ =$ $186.00

The similar cost from D = $1400 \times 34¢ =$ $476.00

The combined cost = $662.00

The average of this cost (.331¢ per bushel) and a 1¢ premium are added to the national average support rate to determine the Kansas City preliminary rate for No. 1 Hard Red Winter; thus $1.92 + .331 + .01 = \$2.26$.

3. Preliminary terminal supports are now established. Under present methodology this is an area in which considerable administrative discretion may be exercised. Therefore, for the purpose of this illustration three alternatives are assumed and their consequences investigated. The three alternatives are, respectively:

a. The "X" alternative where the ten year average of terminal market prices as reported by the Agricultural Marketing Service, Market Research Division of the United States Depart-

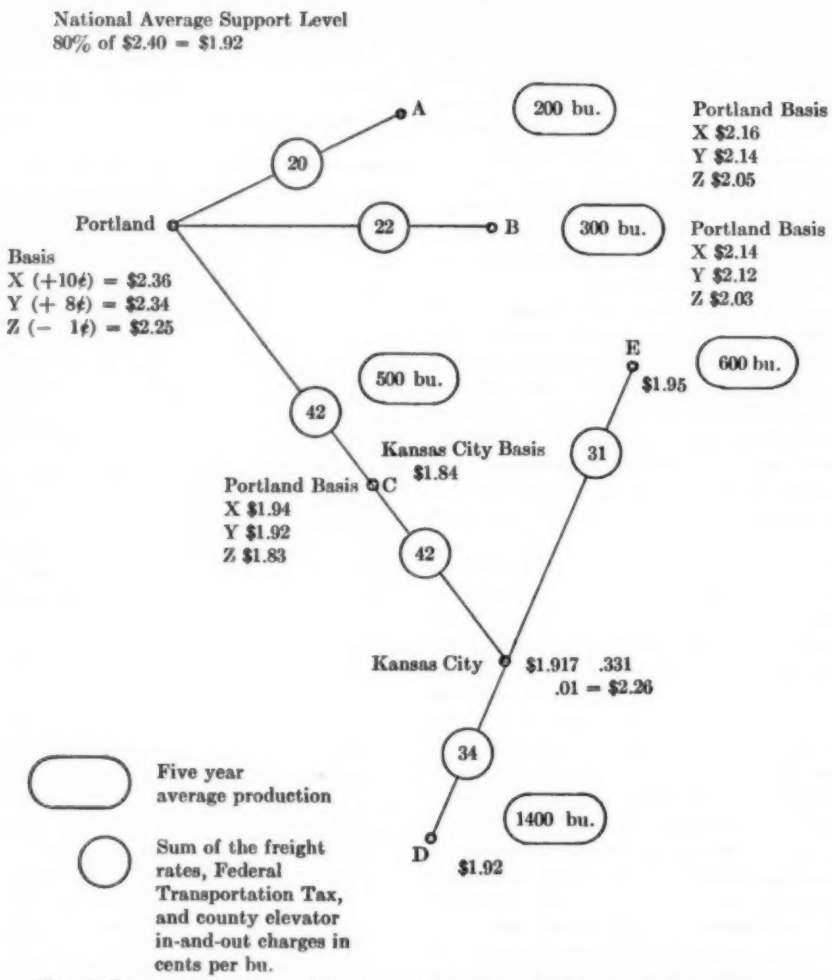

FIG. 1. ILLUSTRATION OF THE IMPLICATIONS OF INTER-TERMINAL DIFFERENCES

ment of Agriculture reveals "Portland's" differential *above* "Kansas City" is 10¢;

b. The "Y" alternative where the five year average reveals "Portland's" differential *above* "Kansas City" is 8¢;

c. The "Z" alternative where the three year average reveals "Portland's" differential *below* "Kansas City" is 1¢.

Using the "X" alternative, "Portland's" preliminary support becomes $2.26 + .10 = $2.36. Use of the "Y" alternative would produce $2.34 and "Z", $2.25.

It should be noted that these alternatives regarding these inter-terminal differentials are not the only ones which exist. Some combination of these averages or projection of them could be used and they can be weighted in varying manners by other factors to be discussed below.

4. The most advantageous preliminary county support rates are now computed by subtracting the relevant freight, the freight tax, and country elevator in-and-out charges from the terminal values. Assumed totals of these charges are indicated in the illustration by the figures in the circles along the lines connecting the counties and the terminals. Counties A and B are assumed to have very high freight rates to "Kansas City" and thus the question of most advantageous terminal does not arise in their case. The same simplifying assumption is made with reference to

D and E and "Portland." County C, however, is assumed to carry the same total transportation cost to the two terminals. The counties' rates as influenced by the choice of inter-terminal differentials are shown in Table I. These rates are also shown in Fig. 1.

5. A weighted national average support rate is now computed using as weights the average production figures for the last five years for each county. This calculation is affected by the alternative choices of inter-terminal differentials as is shown in Table II.

6. An adjustment for premiums and discounts is now made. Let us assume ⅓ of the crop carries a protein premium of 5¢ and ⅓ of the crop is white wheat of a variety carrying a 2¢ discount. These exactly offset each other so no adjustment in the national average support price will be required on their account.

7. Final determination of terminal and county support rates is now made by adjusting them by an amount equal to the difference between the national average of county support rates and the national average price support level. These calculations are illustrated according to alternatives X, Y, and Z in Table III. The contrasting results are depicted in Fig. 2.

TABLE I

PRELIMINARY ALTERNATIVE COUNTY SUPPORT RATES

County Rates	Using Alternatives		
	X	Y	Z
A	216	214	205
B	214	212	203
C	194	192	184[a]
D	192	192	192
E	195	195	195

[a] County C shifts to a "Kansas City" basis here. A "Portland" basis yields only $1.83.

TABLE II

ALTERNATIVE WEIGHTED NATIONAL AVERAGE SUPPORT RATES

Counties	Quantities Used as Weights	Weighted Price Using Alternatives		
		X	Y	Z
A	200	432.00	428.00	410.00
B	300	642.00	636.00	609.00
C	500	970.00	960.00	920.00
D	1,400	2,688.00	2,688.00	2,688.00
E	600	1,170.00	1,170.00	1,170.00
Sum of the weights	3,000			
Value of the Crop		$5,902.00	$5,882.00	$5,797.00
National Average of County Support Rates		$1.97	$1.96	$1.93

IV. CRITIQUE ON THE METHODOLOGY

1. It was said above that the determination of the basic parity and the percentage of parity to be used are not discussed in this article, although these matters obviously vitally affect wheat prices, farmer income and wheat use. It is necessary now only to comment that different general levels of the price for wheat thus determined could well result in different patterns of inter-terminal differences in average market prices than those which actually have been realized.

2. The Kansas City price is computed differently than that of other terminal prices since wheat from a predetermined area, and thus only shipping costs from this area, are included in the basic calculation. The test of most favorable terminal rate is apparently not used in this initial step. It is possible that it could be made later however in step 4 of the methodology.

3. Also in step two and throughout the illustration only railway freight rates are used even though in some areas of the country truck transportation and barge movements are important in the movement of wheat. The reason that railway rates are used is that they are published, while it is difficult to obtain rates for other forms of transportation. It should also be noted that truck rates are quite volatile.

5. Since the support rates are published before the harvest and they rule for a year, changes in railway freight rates occurring after their publication are not utilized until the time for publishing rates for the next marketing year. Also when increased freight rates are reflected in support rates they bring about an increase in the difference between county and terminal rates. However, they do not immediately affect the pattern of inter-terminal differences.

6. The use of terminal market average prices has been claimed to somewhat rectify the obvious and apparently increasingly significant error implicit in ignoring forms of transportation other than rail. It is hard to see how this procedure

TABLE III

ADJUSTMENT FOR FINAL COUNTY AND TERMINAL SUPPORT RATES

Comparison of	Using Alternatives		
	X	Y	Z
National Average Price Support Level	192	192	192
National Average of County Support Rates	197	196	193
	−5	−4	−1
Final County and Terminal Rates			
A	211	210	204
B	209	208	202
C	189	188	183
D	187	188	191
E	190	191	194
Kansas City	221	222	225
Portland	231	230	224

transportation costs actually paid in shipping makes adequate or appropriate allowance for the wheat and its derivatives within and out of the country.

7. The author was informed in an interview in Washington with the Grain Division of the Commodity Stabilization Service that the ten year average is the basic average and that the five and three year averages are trend studies which are considered in conjunction with the "factors which influence the cash prices, such as production in the area, export demand, carryover, and domestic requirements." A paraphrased illustration of the use made of one of these factors goes as follows:

When the averages of recent prices give a greater differential for a terminal above Kansas

The X Alternative

Portland 231 — A 211 E 190; B 209 Kansas City 221; C 189 D 187

The Y Alternative

Portland 230 — A 210 E 191; B 208 Kansas City 222; C 188 D 188

The Z Alternative

Portland 224 — A 204 E 194; B 202 Kansas City 225; C 183 D 191

FIG. 2. FINAL RESULTS CONTRASTED

City than the ten year average does, the price support differential actually set for the oncoming crop may be above the difference on the basis of the ten year average of prices. This decision might result from the view that it was heavy exports from the terminal which caused this recent relative price rise and that exports are likely to continue to be large. There was also said to be a desire on the part of the Department of Agriculture to avoid dramatic price changes from year to year and to reflect in the price support rates only persistent changes in conditions.

There is a grave question as to whether this exercise of discretion really is as sound as it appears to be at first glance. This question arises because exports, and the areas from which they arise, are themselves the results of governmental action regarding subsidies on wheat and flour exports. Subsidies are designed to move wheat and flour out of the country. Since exports come from different areas and different types of wheat are involved, it seems natural that subsidies will differ on these bases. But here again administrative discretion within certain limits can affect domestic wheat prices. These decisions may be largely based on the problems of inventory management and the practical necessity of providing some vacant storage facilities for an impending crop. Indeed, one of the cardinal purposes of legislation activity regarding the exportation of farm commodities has been to reduce American surpluses, and these are largely governmentally owned surpluses, of these commodities.[8]

On the basis of export subsidies and the consideration given to exports in setting terminal rates, a curious type of compounding process can be generated. If an area had relatively high price supports and ample storage facilities, C.C.C. inventories would tend to be high in this area. The subsidy payments could be directed to re-

[8] It has been stated that "The objective (of U.S. trade programs) is to move as large a volume of exports as possible through regular business channels and market C.C.C.-owned stocks with a minimum loss to the government." *Developing Foreign Markets for U.S. Farm Products, A Summary of Promotional Activity*, United States Department of Agriculture, Foreign Agricultural Service, Jan. 1957, p. 35.

The amount of the wheat subsidy on the west coast is the difference between the domestic prices of U. S. hard wheats at these ports and the export price with the provision that the last must be between International Wheat Agreements limits. The subsidy also applies to flour.

moving some of these surpluses through exporting and this could tend to increase, or at least sustain market price in this area. Then in the determination of terminal rates for the next year this area's rate could be raised relative to Kansas City. With a higher price support production could increase, carryover stocks rise, and exports subsidies could again be raised.

The other specifically listed factor which is considered in setting inter-terminal differentials is "domestic requirements." The concept of "domestic requirements" is a broad one and is subject to a variety of possible interpretations. If these requirements are thought of on a regional basis, presumably the authority setting supports could allocate, by a pattern of terminal differentials, the wheat production of the country. Eastern wheat could be excluded from California's markets, Idaho and Utah wheat moved southward, and Pacific Northwest wheat, offshore. Another pattern of terminal differentials would split the California market between Intermountain, Pacific Northwest and Montana wheat and move some of this wheat eastward. Simultaneously, the pattern of export subsidies could be operated so as to move the balance of Pacific Northwest and Montana wheat off-shore. Many other possibilities also exist. These potentialities of inter-terminal differentials will be explained further below.

Apparently it is possible that a three-year average may be given far more weight in determining the differential in one terminal's support rate above or below that of Kansas City, while the ten-year average may be relied on heavily for other terminals. There is a good question as to why these averages should be used at all (except as they show direction of change) because any average obviously is relevant to the past data from which it is derived and may have little meaning for a pattern of change which is emerging. One administrative advantage (in the sense of lessening criticism) and one which may or may not be useful public policy, is that the change of prices from area to area is slowed down, and farm income accordingly made more stable through the years by an averaging calculation.

8. It is evident that there is room for much discretion in setting inter-terminal differentials. The consequences of different decisions must now be traced. Table III and Fig. 2 show that the competitive relation of wheat in counties C and D can be significantly affected by the exercise of administrative discretion. Thus if alternative X is used, wheat from county C is 2 cents above that of county D. On the other hand, if the Z alternative is chosen, county C's wheat is 8 cents below county D's. Flour millers competing in the same final market also will be affected by this type of change. Those who depend on county C will be disadvantaged, if the X alternative is used, in their competition with millers who have access to county D's wheat. The converse applies if alternative Z is exercised. This change in position, it should be noted, is not dependent upon any freight rate change. If the example be reworked to include more than two terminals, the similar influence of differentials between these other terminals could also be illustrated. Probably enough has been said, however, to proceed without this step.

9. In step 6 of the methodology above, assumptions were made which effectively waived the question of the impact various patterns of premiums and discounts on types and grades of wheat might have on the pattern of county support prices. These simplifying assumptions were adopted here in order to concentrate attention on the freight rate factor. Discounts and premiums for quality (grade) and protein content did not appear during the course of the field work to be a serious problem in the administration and operation of the price support mechanism in the far west. This appears to be true nationally also. Discounts for different varieties or different prices for different classes of wheat may be a problem of great seriousness, however.[7]

In the Pacific Northwest the usual price advantage of hard wheat over soft wheat has not been large enough to entice similar numbers of growers to raise more hard wheat and less soft wheat through the years. One reason for this is the generally greater yields per acre of white wheats (and these are mainly soft white or club varieties) over those of other classes of wheat. It should also be mentioned that the likelihood of a protein premium is greater with hard than with white wheat.[8] If in the methodology greater consideration was given to transportation costs, and

[7] Cp. Brensike, *op. cit.*

[8] Cp. pp. 344–366, Harold F. Hollands, *Pacific Northwest Wheat*, Station Bulletin 556, May 1956, Agricultural Experiment Station, Oregon State College at Corvallis; also, *Distribution of the Varieties and Classes of Wheat in the United States in 1954*, Agricultural Handbook No. 108, United States Department of Agriculture, pp. 84–86.

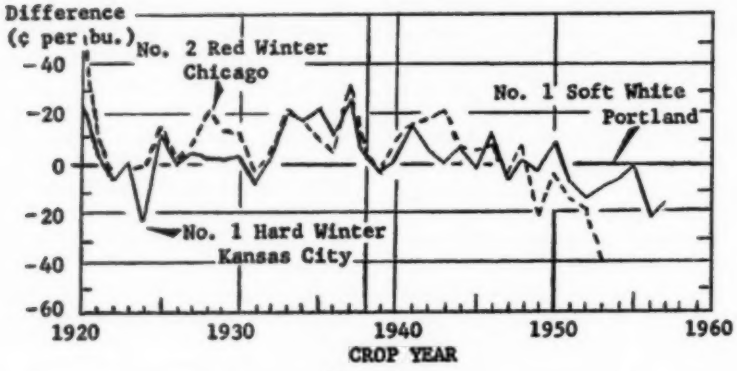

CHART I

[a] In all fairness it should be pointed out that in presenting the chart (of which the above is a portion) Mr. Hollands did not explicitly draw the conclusions from it that are drawn here. He did not, however, draw any contrary conclusions. It should also be noted that the line at 1938 has been added to the chart by the present author.

Source: p. 24, Hollands, *op.cit.*

if these costs were considered out of as well as into terminals, soft white wheats may have been priced substantially below hard wheats in the area and planting patterns could then, perhaps, have been affected.

V. THE HISTORICAL EXPERIENCE

An examination of the record of crop year annual terminal prices of No. 1 soft white wheat in Portland and of No. 1 hard winter wheat in Kansas City from 1938 to 1956 reveals that in the crop years, 1943–47, market prices in both terminals ran well above support price levels. In most other years prices in the terminals were close to or below the terminal support prices. Thus, these years stand out as ones in which normal competitive forces were able to exert themselves much more than they were before or after this period.

If now the available data on average prices received by growers in Washington and Oregon are compared with those received by their counterparts in Idaho, Utah, Montana and California over the same span of time, 1938 through 1956, some interesting corroboration of the distortions implicit in the methodology come to the fore. Idaho wheat tended to be persistently cheaper than Oregon and Washington wheat but from 1948 on, when free market forces were more hampered, it became sharply cheaper. Before 1948 the greatest price advantage of Oregon wheat was 11¢ a bushel. Since then the advantage has ranged from 13¢ to 28¢. Utah's wheat shows a somewhat similar pattern, varying from one cent below to nine cents above Pacific Northwest wheat between 1945–47 to discounts from 8¢ to 27¢ in the years 1948–56. A similar pattern is shown vis-a-vis Montana wheat which ran from 3¢ to 20¢ above Pacific Northwest wheat in 1945–47 and 8¢ to 20¢ below it in 1948–50 and 1953–54. When California growers' average prices are compared with Pacific Northwest growers' prices, it is found that in 1945–47 California enjoyed a premium of from 13 to 28 cents but that in 1948–50 and 1953–54 their advantage ran from 22¢ to minus 4¢. Since California has been an increasingly deficit area as far as wheat is concerned, and since many increases in railway freight rates have occurred in the period under review, the normal pulls of a competitive market might have been expected to sharply increase the price of California wheat over Pacific Northwest wheat prices.

From this review it seems clear that the pattern of relative prices between these states from 1948 on, was other than that which whould have prevailed in the absence of price supports. The price support methodology apparently does not move prices, even on the average, in close accordance with the way they would move in a free market.

Another illustration which strongly points to the same conclusion appears in Chart I. This chart of relative prices in Portland, Chicago and Kansas City is derived from a study by H. F. Hollands.

The solid line in this chart represents the difference in cents per bushel between the price of No. 1 hard winter wheat in Kansas City, and No. 1 soft white wheat in Portland, Oregon. Between the years 1919 and 1938 there were wider fluctuations in this difference from year to year than there have been since 1938. But much more important is the change of the trend of these differences. Up to 1938 Kansas City wheat apparently was tending to become relatively more and more expensive, or alternately, Portland wheat was becoming relatively less and less expensive. Since 1938, and the beginning of the present price support program, this historical tendency has been reversed. Since 1938 then, Kansas City wheat has been tending to become cheaper and cheaper relative to Portland wheat. The broken line in the chart represents a price comparison of No. 1 soft white in Portland with No. 2 red winter wheat in Chicago. A similar picture of an alteration in an historical trend is evident.

ON THE SOUTH'S RECENT ECONOMIC DEVELOPMENT*

STEPHEN L. McDONALD

Louisiana State University

I. INTRODUCTION

In this paper, two major processes in the South's recent economic development are selected for discussion: population shifts and industrialization. These two processes are related by the central theme that the region's development can be understood only as an aspect of the entire nation's development. Specifically, it is argued that the South's absolute and relative progress is connected with a massive reallocation of resources among regions of the national economy; that the reallocation of resources, in turn, reflects both the pace and the technical characteristics of the nation's growth; and that, therefore, the future of Southern economic development depends heavily upon the future speed and direction of growth of the national economy as a whole.

II. TRENDS IN PER CAPITA INCOME

Probably the most satisfactory index of economic development is provided by trends in per capita income. Although total income is more indicative of a region's growth in the broad aggregative sense, the connotations of, and the reasons for interest in, development require a focus upon income per person, or, in some instances, income per worker or per family. Study of available data on unit incomes reveals not only the record, but significantly, some of the reasons for the South's relative progress and its continued lag behind the rest of the country.

Table I indicates the progress of Southern per capita personal income in relation to the rest of the United States since 1940. In the 1940 to 1950 period per capita personal income in every state in the South except Delaware, Maryland and the District of Columbia increased at a higher rate than in the Non-South as a whole. The rate of increase for the South during this period was 187.5 per cent, approximately a third larger than the 140.6 per cent for the rest of the country. In the 1950–1959 period, per capita personal income in every state in the South except Delaware, the District of Columbia and Texas increased at a higher rate than in the Non-South. The South's average rate of increase during the period was 51.6 per cent, approximately a fifth larger than the Non-South's 43.0 per cent. In consequence of this differential growth, per capita personal income in the South increased from 56.9 per cent of the average for the rest of the country in 1940, to 68.0 per cent in 1950 and 72.0 per cent in 1959. It will be noted in Table I that, in general, the rates of increase in per capita income seem inversely associated with the initial levels of per capita income, so that the dispersion of state levels was reduced between 1940 and 1959. In fact, a rank correlation of per capita income levels in the initial year and rates of increase in per capita income in the Southern states for the periods 1940–1950 and 1950–1959 yields coefficients of $-.78$ and $-.81$ respectively. (These coefficients are statistically highly significant, the critical value for the sample size being .60 at the 99 per cent confidence level.) Such reduction in dispersion of state per capita income levels is in keeping, incidentally, with the entire nation's experience in recent decades.[1]

By far the highest relative rate of growth of per capita income in the South was achieved in the 1940–1945 period, when the ratio of Southern to Non-Southern income rose from .569 to .680, or 19.5 per cent.[2] (This rapid gain cannot be attributed simply to recovery of ground lost in the Great Depression, for although per capita per-

* In slightly different form, this paper was read at the annual meeting of the Southern Economic Association, Atlanta, Georgia, November 19, 1960, under the title, "Emerging Economic Developments in the South." The original paper was written at the request of the Joint Council on Economic Education to serve as the basis of discussions possibly leading to the preparation of materials on Southern economic development for use in the public schools.

[1] Frank A. Hannah, *State Income Differentials, 1919–1954* (Durham, Duke University Press, 1959), pp. 6–7.

[2] These and the other data in this paragraph derived from U. S. Department of Commerce, Office of Business Economics, *Personal Income by States Since 1929* (Washington, D. C.: U. S. Government Printing Office, 1956) and *Survey of Current Business*, August 1960.

TABLE I

PER CAPITA PERSONAL INCOME BY STATES SOUTH AND NON-SOUTH, 1940, 1950 AND 1959

States and Regions	1940	1950	1959	1940–1950	1950–1959
	(Dollars)			(Per Cent Increase)	
South Atlantic	459	1,203	1,804	162.7	50.0
Delaware	1,004	2,153	2,946	114.4	36.8
Maryland	712	1,588	2,343	123.0	47.5
District of Columbia	1,170	2,198	2,943	87.9	33.9
Virginia	466	1,222	1,816	162.2	48.6
West Virginia	407	1,095	1,635	169.0	49.4
North Carolina	328	1,009	1,485	207.6	47.2
South Carolina	307	881	1,332	187.0	51.2
Georgia	340	1,016	1,553	198.8	52.8
Florida	513	1,288	1,980	151.1	53.7
East South Central	294	901	1,423	206.5	57.9
Kentucky	320	958	1,514	199.4	58.0
Tennessee	339	995	1,521	193.5	52.9
Alabama	282	867	1,409	207.4	62.5
Mississippi	218	729	1,162	234.4	59.4
West South Central	383	1,195	1,764	212.0	47.6
Arkansas	256	805	1,322	214.4	64.2
Louisiana	363	1,089	1,575	200.0	44.6
Oklahoma	373	1,133	1,786	203.8	57.6
Texas	432	1,340	1,908	210.2	42.4
South	392	1,127	1,708	187.5	51.6
% of the Non-South	56.9	68.0	72.0	133.4	120.0
United States	595	1,491	2,166	150.6	45.3
Non-South	689	1.658	2,371	140.6	43.0

Sources: U. S. Dept. of Commerce, Office of Business Economics, *Personal Income by States Since 1929*, 1956, and *Survey of Current Business*, August 1960.

sonal incomes declined in both broad regions in the 1929–1940 period, the ratio of South to Non-South rose from .518 to .569, or 9.8 per cent.) There was no change in the relative position of the South from 1945 to 1950, these years coinciding roughly with the end of World War II and the beginning of the Korean War. In the period 1950–1955, however, relative progress was resumed, the South to Non-South ratio rising from .680 to .706 or 3.8 per cent. Between 1955 and 1959 the ratio increased 2.0 per cent, from .706 to .720. As will be made clearer below, it is the present hypothesis that changes in the South to Non-South ratios reflect labor market pressures primarily, the South making its greatest relative gains, paradoxically, (1) when industrial unemployment was extraordinarily great and long sustained in the more industrialized Non-South and (2) when the war-created demands for labor provided exceptional opportunities for Southern workers, both within and outside the South.

But before proceeding with this argument, consider the South's relative income position in more detail. One of the difficulties of interpreting per capita income figures stems from the fact that the states differ substantially as to the proportion of population in the total and the employed labor force. In general, the Southern and Western states have smaller proportions of their populations in the labor force, both total and employed, than the national average, while the Mid-Western and Eastern states have larger than average proportions of their populations in the labor force.[3] Except for Delaware, Maryland and the District of Columbia, all of the Southern states have lower such proportions than the nation as a whole.[4] The difference is especially pronounced in the East South Central and West South Central regions.[5] Viewed as returns to economic effort,

[3] Hannah, *op. cit.*, p. 198.
[4] *Loc. cit.*
[5] *Loc. cit.*

TABLE II

MEDIAN FAMILY MONEY INCOME BY RACE AND RESIDENCE, SOUTH AND UNITED STATES, 1958
(dollars)

	South			United States		
	Total	White	Non-White	Total	White	Non-White
All Families						
Median Income	4,106	4,565	2,014	5,087	5,300	2,711
% of United States	80.7	86.1	74.3			
Head year-round, full-time worker						
% of All Families	59.5	62.8	43.0	62.0	63.7	44.8
Median Income	5,317	5,623	2,841	5,980	6,118	3,921
% of United States	88.9	91.9	72.5			
Urban Families						
Median Income	4,679	5,192	2,569	5,469	5,679	3,392
% of United States	85.6	91.4	75.7			
Rural Nonfarm Families						
Median Income	4,424	4,777	2,068	5,048	5,211	2,361
% of United States	87.6	91.7	87.6			
Rural Farm Families						
Median Income	2,055	2,411	1,089	2,747	3,025	1,123
% of United States	74.8	79.7	97.0			

Source: U. S. Dept. of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60, No. 33, January 15, 1960, p. 30.

therefore, per capita income data tend to understate results in the South and West and to overstate them in the rest of the country. Among other problems of interpretation are those associated with the proportion of full-time employment, the proportion of farm employment and the proportion of nonwhite workers.

Some insight into the effects of these factors is given in Table II, showing median family money incomes in 1958 for the South and the United States as a whole, classified by race and residence.[6] In 1958 the median family income in the United States was $5,087; for the South the median family income was $4,106, or 80.7 per cent of the figure for the nation. However, the median *white* family income in the South was $4,565, 86.1 per cent of its counterpart of $5,300 in the United States as a whole, while the median nonwhite family income in the South was $2,014, only 44.1 per cent of the Southern white median and 74.3 per cent of the nonwhite median of $2,711 for the nation. Of all white families in the United States, 63.7 per cent had heads who were year-round, full-time workers as compared with 62.8 per cent of the white families in the South. In the case of nonwhite families, the percentages having heads who were year-round, full-time workers were 44.8 for the nation and 43.0 for the South. For white families whose heads were year-round, full-time workers, the Southern median income was 91.9 per cent of the national median. For such nonwhite families, the Southern median was 50.5 per cent of the Southern white median and 72.5 per cent of the national nonwhite median.

The data for all families classified by residence reveal that Southern urban and rural nonfarm white families had median incomes that were 91.4 and 91.7 per cent, respectively, of their national counterparts. Southern farm white families, however, had a median income only 79.7 per cent of the national average of farm white families. Southern nonwhite families had median incomes consistently less than half the Southern white medians, but ranging from 75.7 per cent of the national median of nonwhite urban families to 97.0 per cent of the national median of nonwhite farm families. The latter increase in ratio is, of course, largely due to the fact that the proportion of the nation's nonwhite families living in the South gets progressively larger as one moves from the urban to the rural nonfarm to the farm category.

[6] Unfortunately, the data are not reported by the source in such a way as to permit a comparison between South and Non-South, and there is no breakdown by sub-regions within the South.

The foregoing comparative data on incomes permit the following generalizations: For several decades, Southern incomes per person have been making progress toward parity with those in the rest of the country. Since 1940, the relative gain was especially high during World War II and moderately so in the period 1950–1955, which embraced the Korean War. The poorer states in the region have been gaining on the rest of the country at a faster pace than the richer states in the region. As of the present, median incomes of Southern white families in urban and rural nonfarm areas are nearly as large as their counterparts in other sections of the country. The remaining substantial disparity between average Southern and Non-Southern incomes seems to be associated with the relatively high proportion of Southerners on farms,[7] considerably lower farm incomes in the South than in the Non-South, and the relatively high proportion of the Southern population represented by nonwhites, almost entirely Negroes.[8] Regarding the latter, it has been seen that less than half the families are headed by year-round, full-time workers, and one may safely add without necessity for supporting data that the low incomes typical of Southern nonwhites are associated in some measure with relatively low levels of education among those of working age and comparatively restricted job opportunities.

III. BASIC FACTORS IN THE SOUTH'S RELATIVE INCOME GROWTH

With this view of the South's recent progress toward income parity and of its present position in that regard, the nature of the processes by which the region's relative income improvement has been achieved will now be considered. An understanding of these processes gives insight into both prospects for further relative improvement and the kinds of policies and programs that promise most to accelerate it.

To begin in the most general terms, income per person or per worker in a region has two dimensions. The first of these is the aggregate earning power of the region, back of which lie its resources, and the effectiveness with which they are utilized, and the terms of trade between the region and others. The other dimension is the number of persons or workers dependent upon the region's aggregate earning power. It requires reference to both dimensions to explain the level of income per person or per worker, and changes in that level, in any particular region. Aggregate earning capacity of a region may rise or fall relatively to that of other areas, but per capita income need not move correspondingly, depending upon the inter-regional mobility of population. Similarly, relative changes in regional per capita incomes may occur with unchanging regional aggregate earning power, population shifts accounting for all the per capita income changes.

It appears that in recent decades both improvements in the South's relative earning capacity and relative decline of population have operated to raise Southern income per person in relation to the rest of the country. The former seems to be associated with the nation's having reached a stage in its economic development in which the South's peculiar resources are being enhanced in importance. From about the 1850's to World War I, the coal-iron ore-limestone complex formed the fundamental resource basis of the nation's industrial development. The nature of these materials required that industries using them locate near their sources. Through its inflexibility, the railroad, an outgrowth and integral part of the coal-iron ore-limestone system, further contributed to the agglomeration of industry about the basic industrial raw material sources and the natural junctions of land and water transportation routes. Large-scale immigration, chiefly through the great Northeast Atlantic ports, provided a flow of cheap labor. Thus a broad band from Chicago east to the Atlantic became the nation's economic center of gravity. Moreover, the westward extension of the railroads in a conscious national drive to populate the West and secure it for the white man's purposes further shaped the regional course of economic development. In a very real sense, the South was by-passed in this great stage of the nation's economic development and left comparatively isolated in and behind its mountains, with implications not only for its economic progress but for its distinctive habits of life and thought.[9]

[7] See below, p. 11.

[8] U. S. Department of Commerce, *Statistical Abstract of the United States, 1959*, p. 30.

[9] For a most suggestive hypothesis concerning the effects of this isolation upon Southern agriculture, see T. W. Schultz, *Economic Organization of Agriculture* (New York, McGraw-Hill Book Company, 1953), especially pp. 292–293. The present

Since World War I, the dominance of the railroad and the coal-iron ore-limestone complex has declined. The motorcar and truck, and later the airplane, brought new flexibility to transportation and made petroleum a prime resource. Oil and gas, together with the more limited hydroelectric power, further freed industry from coal by providing easily transported alternative sources of energy for stationary plants. Wood pulp and chemicals became basic industrial raw materials. First copper and lead and then aluminum and plastics secured places for themselves alongside iron and steel. With the growth of population in the old industrial heartland, space itself became a problem, particularly after the automobile became virtually universal. Immigration almost ceased. The effect of all these changes was to enhance the earning capacity of the South, the Southwest and the West at the expense of the Mid-West and the East, partly because the new materials were to be found or most economically produced in the former regions and partly because greater freedom from coal and railroads and the cessation and immigration made these regions' space and labor supplies more attractive to industry. The South's relative income progress in the last few decades, especially since 1940, is in some significant degree due to regional industrialization based upon oil and gas, chemicals, paper, light metals and cheap space, as well as relatively cheap labor. In short, the South has been one of the regional beneficiaries of the nation's gradual shift in resource base as an outgrowth of technological progress and growth of population and income.

The subject of industrialization will be discussed in greater detail at a later point. It is now desirable to consider the second dimension of relative per capita income growth, shifts in population.

The first type of population shift of interest to us is that reflecting change from farm to nonfarm employment. It is well known that an almost universal aspect of economic development is relative, and often absolute, decline in farm employment,[10] the basic reason being the low income elasticity of demand for farm products.[11] Indeed, it is the progressiveness of the American economy which largely accounts for the fact that average farm incomes are persistently low relative to nonfarm incomes; for lacking the most sensitive response to relative income inducements, farm incomes must be comparatively low to induce farm workers and proprietors to transfer their labor to other employments, and they remain low so long as the reallocative process proceeds no more rapidly than the technological progress which calls it forth.[12] Under these circumstances, migration from agriculture raises average income per worker in two ways: it results in the migrant earning more than before, and it allows the remaining farm workers to be more effectively combined with land and capital and thus to earn higher incomes in agriculture than otherwise would have been possible.

Farm employment in the United States declined 9.6 per cent between 1940 and 1950 and 25.6 per cent in the period 1950–1959.[13] The corresponding reductions in the South were 16.2 per cent and 30.5 per cent in the two periods, respectively. Significantly, the highest rates of reduction of farm employment, 19.6 per cent for 1940–1950 and 35.2 per cent for 1950–1959, were in the East South Central region, which has both the highest percentage of its population engaged in agriculture and the lowest per capita income of the three sub-regions in the South. In 1940 50.6 per cent of the nation's agricultural employment was on Southern farms, a proportion which declined to 46.9 per cent in 1950 and 43.8 per cent in 1959. Further relative increase of per capita income in the South will undoubtedly be associated with further reduction in the percentage of the nation's farm people on Southern farms.

The second type of population shift of interest here is that among the several regions of the country. Table III shows population change and net civilian migration expressed as a percentage of initial population for the states and sub-regions of the South and for the United States in the

writer sought to build upon this hypothesis in his "Farm Outmigration as an Integrative Adjustment to Economic Growth," *Social Forces*, December 1955.

[10] William H. Nicholls calls the relative decline of agriculture in connection with economic growth "a law of economic history." *Southern Tradition and Economic Progress* (Chapel Hill, N. C.: University of North Carolina Press, 1960), p. 41.

[11] T. W. Schultz, *Agriculture in an Unstable Economy* (New York: McGraw-Hill Book Company, 1945), pp. 60–70.

[12] McDonald, *op. cit.*, pp. 123–126.

[13] These and the other data in this paragraph derived from U. S. Department of Commerce, *Statistical Abstract of the United States, 1960*, p. 216.

periods 1940–1950 and 1950–1958. Two states actually lost population in both periods: Arkansas and Mississippi, the states which rank 47th and 48th, incidentally, in per capita income size. In addition, Oklahoma lost population in the first period and West Virginia in the second. Except for Delaware, Maryland, the District of Columbia, Florida and Texas, the population gains were very small in the Southern states. Even including these states, the population gain in the South was 12.4 per cent as compared to 14.6 per cent in the Non-South during 1940–1950, and 13.5 per cent as compared with 15.6 per cent in 1950–1958. Particularly since the Southern states generally have higher reproduction rates than the Non-Southern states, the data on migration are even more significant. Delaware, Maryland, Virginia, Florida and Texas experienced net population gains through migration during both periods, the rate of gain being especially high in Florida and quite modest in Texas. There was net migration into the District of Columbia in the first period, but net migration out of the District in the second period. All other states in the South experienced net population losses through migration in both periods, the rates of loss being especially high in Arkansas and Mississippi. The South averaged −5.1 per cent net migration during 1940–1950 as compared with a rate of +4.5 per cent for the Non-South. In the period of 1950–1958, the South's rate of net migration was −2.5 per cent, while the Non-South's rate of net migration was +3.0 per cent.

A definite pattern is observable here: generally speaking, the lower a state's per capita income, the greater the degree of population loss through migration. In order to quantify this relationship very simply, rank correlation coefficients were calculated for the two periods, 1940–1950 and 1950–1958, relating per capita incomes in the Southern states and percentages of net civilian migration. For the first period, the per capita income distribution for 1945 was used; for the second period, the per capita income distribution for 1955. Ranks were assigned from the highest to the lowest per capita income figure and from the highest rate of population gain through migration to the highest rate of population loss through migration, in that order. For the 1940–1950 period, the rank correlation coefficient is .83, well above the critical value of approximately .60 at the 99 per cent confidence level. For the second period the coefficient is somewhat smaller, though still statistically highly significant, .76. Migration was also correlated with per cent *increase* in per capita personal income in the two periods, yielding rank correlation coefficients of −.68 for 1940–1950 and −.72 for 1950–1958, meaning, of course, that those states experiencing the greatest relative population losses through migration were those that made the greatest relative gains in per capita income.

It is noteworthy also that at least during the 1940–1950 period (data are not yet available for 1950–1960), migration from the Southern states was selective of nonwhites. Thus, despite the higher reproduction rate of nonwhites, nonwhite

TABLE III

POPULATION CHANGE AND NET CIVILIAN MIGRATION AS PER CENT OF INITIAL POPULATION, SOUTH AND NON-SOUTH

1940–1950 and 1950–1958

States and Regions	1940–1950		1950–1958	
	Population Change	Net Civilian Migration	Population Change	Net Civilian Migration
	(per cent)		(per cent)	
South Atlantic	+17.5	0.0	+19.3	+3.2
Delaware	+19.6	+9.0	+39.7	+23.4
Maryland	+27.3	+14.2	+26.4	+11.4
District of Columbia	+17.1	+4.0	+3.2	−9.3
Virginia	+21.5	+4.1	+17.7	+2.0
West Virginia	+5.4	−10.7	−2.0	−14.8
North Carolina	+12.6	−7.3	+10.0	−6.9
South Carolina	+10.6	−12.1	+13.0	−6.3
Georgia	+9.4	−9.3	+9.9	−7.2
Florida	+44.3	+30.0	+62.9	+46.3
East South Central	+6.0	−11.3	+3.5	−11.3
Kentucky	+2.7	−12.8	+4.8	−8.8
Tennessee	+12.5	−4.0	+5.4	−8.5
Alabama	+7.9	−11.1	+3.3	−12.2
Mississippi	−0.9	−19.4	−1.0	−17.6
West South Central	+10.4	−6.8	+13.0	−3.9
Arkansas	−2.1	−20.0	−8.3	−22.0
Louisiana	+13.1	−5.5	+15.8	−3.1
Oklahoma	−4.9	−17.7	+0.9	−11.0
Texas	+18.7	+0.6	+20.9	+2.4
South	+12.4	−5.1	+13.5	−2.5
United States	+13.9	+1.5	+15.1	+1.3
Non-South	+14.6	+4.5	+15.6	+3.0

Sources: U. S. Dept. of Commerce, *Statistical Abstract of the United States*, 1960, p. 11, and Bureau of the Census, *Current Population Reports*, Series P-25, May 1953, p. 5.

proportions in the period decreased in every state of the South except Delaware and the District of Columbia.[14]

IV. GROWTH OF MANUFACTURING IN THE SOUTH

It would appear from the foregoing that migration from the Southern states has played a major role in raising per capita incomes in these states relative to the national average. Undoubtedly, migration will continue to play a role in future progress of this sort, particularly when it is identified with or accompanied by migration from farm to urban areas. But the relative growth of incomes in the South has been in some significant measure due to the growth of nonfarm employment opportunities in the same area; and although there are important exceptions to be observed, these nonfarm opportunities are generally associated, directly or indirectly, with manufacturing.

William H. Nicholls[15] argues most convincingly that industrialization is essential to continued rapid progress in the South. His reasons[16] are worth reviewing here. First, local industrialization makes it easier to get surplus farm labor out of agriculture, due to the effects of knowledge and access. Second, local industrialization helps avoid the drain of social capital implied in population losses through migration. Third, industrialization usually involves the introduction of outside capital into the affected community, making it easier to finance the necessary adjustment in agriculture to higher wages and more productive techniques. Fourth, local industrialization leads to the development of new service and other tertiary industries—trade, finance, etc.—and creates new markets for local farm products as well as jobs for surplus farm workers. Fifth, greater output of manufactured goods and of services in local communities makes them available on a more competitive basis to farmers in the surrounding area. And finally, greater concentration of population in urban communities associated with growth of manufacturing and related activities makes possible the provision of more and better public services.

The growing relative importance of manufacturing in the South and the region's still-great lag behind the nation in this connection are shown in Table IV, which gives the industrial composition of civilian income received from participation in current production for the South and the rest of the country in the years 1940, 1950 and 1959. Concentrating upon the greatest contrasts, it can be seen that in 1940 15.6 per cent of the current production income in the South was derived from agriculture, as compared with only 7.1 per cent in the Non-South. In the same year, manufacturing accounted for 17.4 per cent of such income in the South and 28.3 per cent, over 60 per cent more, in the rest of the country. In 1940, the South derived a substantially larger proportion of current production income from mining than the Non-South, and somewhat larger proportions from contract construction, transportation and government. Otherwise, the proportions were essentially similar as between the South and the rest of the country.

By 1950, most of these contrasts had diminished in size. Farms accounted for 13.0 per cent of production income in the South and 7.6 per cent in the Non-South. Manufacturing provided 20.5 per cent of such income in the South and 31.8 per cent in the rest of the country, the latter percentage being about 55 per cent larger than the former. Mining remained a distinctively larger source of income in relation to the total in the South than in the Non-South, the percentages being 4.1 and 1.3 respectively.

In 1959, still smaller disparities are to be observed in the comparison of South and Non-South. Agriculture in that year accounted for 7.6 per cent of total current income from production in the South and 4.0 per cent in the rest of the country. For mining, the percentages were 3.2 and 0.9 respectively. For manufacturing, they were 22.6 and 32.6, the latter being 44 per cent larger than the former. In general, then, over the period 1940–1959 covered by the table, the industrial composition of income from current production in the South became significantly more like that of the rest of the country, but very large differences remain. The most significant difference lies in the relatively low proportion of income derived from manufacturing in the South, offset by relatively high proportions in agriculture, mining and government.

It should be noted, of course, that the proportion of income derived from a particular industry is a function of both the proportion of employed labor force engaged and the average level of

[14] U. S. Department of Commerce, *Statistical Abstract of the United States, 1959*, p. 30.
[15] Nicholls, *op. cit.*
[16] *Ibid.*, pp. 13–14.

TABLE IV

INDUSTRIAL COMPOSITION OF CIVILIAN INCOME RECEIVED FOR PARTICIPATION IN CURRENT PRODUCTION, SOUTH AND NON-SOUTH
1940, 1950 and 1959
(Per Cent of Total)

Industry	1940		1950		1959	
	South	Non-South	South	Non-South	South	Non-South
	(Per Cent)		(Per Cent)		(Per Cent)	
Farms	15.6	7.1	13.0	7.6	7.6	4.0
Mining	4.2	1.6	4.1	1.3	3.2	0.9
Contract construction	4.5	3.7	6.6	5.7	7.1	6.5
Manufacturing	17.4	28.3	20.5	31.8	22.6	32.6
Wholesale & retail trade	18.8	21.0	20.7	21.0	20.0	19.5
Finance, ins. & real estate	3.4	4.9	3.3	4.0	4.7	5.1
Transportation	6.7	6.2	6.1	5.8	5.3	5.0
Communication & pub. util.	2.2	2.7	2.4	2.5	2.8	2.8
Services	11.5	12.4	11.1	11.1	12.0	12.6
Government	15.2	11.7	11.8	8.7	14.2	10.7
Other	0.5	0.2	0.4	0.3	0.4	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
(Total—$ million)	(13,456)	(49,395)	(41,964)	(138,981)	(72,929)	(230,869)

Sources: U. S. Dept. of Commerce, Office of Business Economics, *Personal Income by States Since 1929*, 1956, and *Survey of Current Business*, August 1960.

income in the industry. One reason why the proportion of total income derived from farms is as low as it is in the South is the low average level of income per worker in Southern agriculture. Similarly, the somewhat standardized salaries in government (particularly Federal) employment over the nation would lead to a relatively high proportion of income derived from this function in the South, even if the region had the same proportion of workers engaged in government. As will later be seen, a part of the reason for the comparatively low proportion of income from current production in manufacturing in the South is the relatively low value added per Southern manufacturing employee.

In the ten year period 1947 to 1957, the number of employees in Southern manufacturing concerns increased from 2,710,000 to 3,419,000, an increase of 26.2 per cent.[17] In the Non-South the increase was from 11,584,000 to 13,211,000, or only 14.0 per cent. Consequently, the proportion of the nation's manufacturing workers employed in the South increased from 19.0 per cent in 1947 to 20.6 per cent in 1957. Value added in Southern manufacturing activity rose from $12.9 billion in 1947 to $27.2 billion in 1957, an increase of 110.9 per cent. By comparison, value added by manufacturing outside the South rose only 91.0 per cent in the same period, from $61.4 billion to $117.3 billion. The South accounted for 17.3 per cent of the nation's total value added by manufacture in 1947 and 18.8 per cent in 1957. Value added per employee in the South was $4,744 in 1947, or 89.5 per cent of its Non-Southern counterpart. By 1957, value added per Southern employee had risen to $7,947, but it remained 89.5 per cent of value added per employee in the Non-South. Incidentally, the fraction of 89.5 per cent of Southern to Non-Southern value added per employee in manufacturing is interestingly similar to the 88.9 per cent fraction of Southern to Non-Southern median incomes of families whose heads are year-round, full-time workers (Table II, above).

Unfortunately, no single measure adequately expresses the contribution of manufacturing

[17] These and the other data in this and the following two paragraphs derived from U. S. Department of Commerce, *1954 Census of Manufactures*, Vol. I, and *Annual Survey of Manufactures*, 1957.

TABLE V

INDUSTRIAL DISTRIBUTION OF VALUE ADDED IN MANUFACTURING AND VALUE ADDED PER EMPLOYEE, SOUTH AND NON-SOUTH, 1957

Industry	South		Non-South	
	Per Cent of Total Value Added	V.A. per Employee (Dollars)	Per Cent of Total Value Added	V.A. per Employee (Dollars)
Food and kindred prod.	13.0	8,571	10.6	9,790
Tobacco mfrs.	3.9	16,446	0.1	7,130
Textile mill prod.	10.6	4,826	2.0	5,865
Apparel and related	4.1	3,758	4.1	5,020
Lumber and wood prod.	3.6	3,654	2.0	6,135
Furniture and fixtures	2.5	5,532	1.5	7,096
Pulp, paper and prod.	5.5	11,351	3.5	9,552
Printing and publishing	3.8	7,628	5.7	9,148
Chemicals and prod.	15.6	16,573	6.7	15,442
Petroleum and coal prod.	4.9	17,733	1.4	15,126
Rubber prod.	1.3	11,367	1.7	8,865
Leather and leather goods	0.7	5,179	1.4	5,164
Stone, clay and glass	3.6	7,912	3.3	9,529
Primary metals	6.7	10,055	9.6	10,305
Fabricated metals	4.0	7,476	7.0	8,509
Machinery, except elect.	4.9	8,859	12.0	9,064
Electrical machinery	2.6	9,000	7.4	8,644
Transport. equipment	7.6	8,012	13.8	9,845
Instruments and related	0.2	6,250	2.3	8,950
Miscellaneous	0.9	5,419	3.8	7,082
Total	100.0	7,947	100.0	8,883
(Total—$ million)	(27,171)		(117,348)	

Source: U. S. Dept. of Commerce, Bureau of the Census, *Annual Survey of Manufactures*, 1957.

industry to the region in which it is located. Perhaps the best single measure, however, is value added. Accordingly, Table V is presented to indicate the composition of value added by manufacturing in the South and the rest of the country in 1957. Values added per employee by industrial division are also shown in Table V. It will be noted, first, that in the South three industries stand out in terms of contribution to total value added in the region. They are chemicals and products, accounting for 15.6 per cent of total value added, food and kindred products, accounting for 13.0 per cent, and textile mill products, accounting for 10.6 per cent of total value added by manufacturing. Two of these, chemicals and foods, are characterized by above-average value added per employee, while the third, textiles, is characterized by below-average value added per employee. In the rest of the country there is a somewhat more even distribution of value added, as one would expect. However, four industries are rather prominent. They are transportation equipment, accounting for 13.8 per cent of total value added, machinery, except electrical, with 12.0 per cent of value added, food and kindred products, with 10.6 per cent of value added, and primary metals, accounting for 9.6 per cent of total value added in manufacturing. All four of these are characterized by above-average value added per employee. Although the average value added per employee in the South is lower than that in the Non-South, on an industry-by-industry basis this is true in only 12 out of 20 cases. However, two of these cases are industries which are major sources of value added in the South, foods and textiles. Value added per employee in the South is notably lower than in the Non-South in the cases of apparel, lumber and wood products, furniture and fixtures, stone, clay and glass products, and miscellaneous manufactures, the first three of which, at least, are relatively labor intensive and often use female and part-time labor.

The relationship in the several Southern states

between per capita personal income on the one hand and (1) value added per employee in manufacturing and (2) the proportion of current production income derived from manufacturing on the other were measured by means of rank correlation coefficients. As for the first relationship, per capita personal income to value added per employee, the rank correlation coefficient is .69, which is well above the critical value of .60 for the 99 per cent confidence level. For the second relationship, per capita personal income to proportion of income from manufacturing, the rank correlation coefficient is −.16, which is not statistically significant.[18]

The findings suggest the following general hypothesis about the role of industrialization in raising per capita incomes in the South. In some Southern states, industry is attracted primarily by nonhuman resources—oil and gas, sulphur, salt, water, timber land, etc. The industries in question tend to be characterized by high value added per man because they lend themselves to mechanization and require skilled labor at relatively high wages. Often the industries are affiliated with nationwide concerns whose technological and labor standards are well established. Such industries may not employ great numbers of workers, but their payrolls have a disproportionate impact upon local economies because of the average level of wages. Moreover, industries attracted by nonhuman resources create demand for the local output of the extractive and service industries, as well as transportation, trade, finance and utilities, thus widening the effect upon local incomes. States attracting industry on this basis may have relatively high incomes on the average, while manufacturing per se seems to account for a relatively small proportion of income from current production. Other Southern states appear to attract industry largely on the basis of cheap labor: industries such as textiles, apparel and furniture and fixtures, for instance. Raw materials are cheaply transported and may originate in other states. Large numbers of workers may be employed in such industries, but the total economic impact is relatively small, partly because of low wages and partly because there is little secondary stimulus to local extractive and service industries, utilities, finance, and transportation. Such states, then, may exhibit a relatively high proportion of income derived from manufacturing per se, but have relatively low incomes per capita. Value added per employee in Southern labor-intensive industries may be low largely because wages are low, and the latter may remain low because the industry attracted by cheap labor has little inducement to increase the productivity of labor through adopting labor-saving devices and techniques. Thus the state with little to offer but its cheap labor must rely relatively more upon migration from the state to raise per capita incomes.

The statistical findings also suggest the possibility that industrialization, per se, is overemphasized as a source of Southern economic progress to the neglect of other economic activities in which the South has greater natural advantages. The cases of Texas, Louisiana and Florida, all of which have experienced relatively high rates of growth in recent years, underline the direct contributions to earning power that may be made by nonmanufacturing activities based on distinctive regional assets: oil and gas production, chemical raw materials mining, trade, finance and transportation in connection with port facilities and water routes, tourism and specialized agriculture, for example. Development of such activities in the South may be as significant as growth of manufacturing in relieving migration of some of the burden of raising Southern per capita incomes relatively to the rest of the nation.

V. CONCLUSION

The South's recent progress toward income parity is the result of two processes, the growth of aggregate earning power in the region associated with increasing relative importance of its resources, and the relative reduction of the number of persons dependent upon that aggregate earning power. Both of these processes are related to the pattern and speed of the nation's development. The South's peculiar resources achieved their new relative importance because the nation's technology reached a certain stage

[18] In an earlier study covering an eleven state group defined as the "South," the present writer found a correlation between per cent increase in per capita income and per cent increase in the proportion of personal income derived from manufacturing during 1940–1947, but *not* for the period 1947–1957. Stephen L. McDonald, "Changes in the Occupational Structure of the South, 1940–1957," *Unemployment Problems*, Papers presented before Special Committee on Unemployment, U. S. Senate, Part 5, December 1959.

and its population a certain size. Migration from the South reflects opportunities created by growth in other sections of the country. Accordingly, one is led to assert that the future speed of Southern economic development and progress toward income parity, particularly as it requires further migration from the area, depends heavily upon the future speed of the nation's growth, hence upon national policies promoting growth. Interestingly enough, the pace of national growth may depend in part upon policies aimed at exploiting opportunities offered by the South. As for many decades past, the South today is a vast storehouse of ineffectively utilized labor and other resources. One of the best means, therefore, of accelerating the near-term rate of growth of the American economy may be a national program designed specifically to facilitate the reallocation and recombination of those partly wasted resources.

INTERREGIONAL INCOME DIFFERENCES: SELF-PERPETUATION

RUFUS B. HUGHES, JR.

Colorado State University

The intent of this paper is to consider the manner in which our historic and current system of social and economic organization perpetuates interregional growth and income differentials once they come into existence. The rather general failure of American leaders to understand certain basic causes for such differentials, even as they persist in this country, leads to confusion in the formulation of domestic public policy and in international relations.

Here, it will be argued that a free market system of organization, by nature, causes advanced regions (whatever the original cause for advance) to grow, at least in part, at the expense of other regions. Consequently, once income differences emerge they tend to become self-perpetuating, unless some exogenous influence, e.g., government or chance, acts to offset market forces. These results flow from a process of circular causation—income differences causing differentials in savings and investments, human capacities and ambitions, etc., and these, in turn, causing differentials in income.[1] With appropriate alterations, a similar argument might be made regarding international income differences.

INDICATIONS OF EQUILIBRIUM THEORY

To set the stage, consider a free-market economy initially in equilibrium and without interregional differences in socio-economic attributes. Now suppose the following:

(1) Development of a new production process which would convert a very common and widely distributed material into some widely demanded product.

(2) With this process, per unit cost of the product would be much below the cost associated with alternative processes.

(3) The new process is subject to economies of scale so that the output from one technically efficient plant would substantially saturate the market for the product, given a price that would permit continued operation of the plant.

(4) A decision is made to locate a plant using the new process in some particular region.

In terms of static (traditional) equilibrium theory the initial situation would be disturbed, thus, loosing a series of resource adjustments which would continue until marginal returns in all uses and regions were equal again. The interregional consequences would be as follows:

(1) A geographic rearrangement of existing labor and capital resources. The concentration of resources would (a) increase in the region acquiring the new plant (b) become less dense in neighboring regions and (perhaps) (c) remain unchanged in very remote regions.

(2) An increase in the aggregate real income and, thus, in the aggregate value of the economy's resources. These gains would tend to be heaped most generously upon (a) resources initially located in the region selected for the new plant or subject to being moved at low costs and (b) resources initially suited (physically or otherwise) for use in exploiting the new process or subject to low cost conversion.

(3) Emergence of interregional growth and income differentials. Incomes would probably be higher in the region acquiring the new plant and diminish (though not uniformly) with distance from that region.

Since the traditional analytical framework concerns the reestablishment of equilibrium and ends at this point, one might expect the above situation to be stable until disturbed by another exogenous (chance) happening. Should chance events occur with geographic randomness, interregional income differences would (probably) prove temporary. A random distribution, however, seems unlikely. For various reasons, the higher income areas would continue to be favored.

[1] Gunnar Myrdal, *Rich Lands and Poor: The Road to World Prosperity* (New York: Harper & Bros., 1957). Also see: Rufus B. Hughes, Jr., "The Problem of an Adequate Theoretical Framework," *Proceedings of the Southern Agricultural Workers Annual Convention*, 1955. The full text of this paper is contained in the mimeographed proceedings—not in the printed abstracts.

CIRCULAR CAUSATION AND CONTINUOUS DISEQUILIBRIUM

The analysis would not need to be continued if one were concerned only with short-range developments. But, in the long-run an equilibrium situation would not prevail. The inadequacy of traditional theory, in this respect, was recognized by Professor Domar when he spoke of ". . . a theoretical wonderland where a positive net propensity to save is consistent with a constant stock of capital, where full employment is compatible with the traditional competitive equilibrium and capitalism with a stationary society, ..."[2]

Since the classical period, economic thought has been largely preoccupied with short-run problems of allocation and stability. The theories that have resulted, though fairly adequate for short-term analyses, provide little insight into problems of growth or interregional growth differentials. Efforts to rid economic theory of myopia have centered largely upon variables generally accepted as being economic, e.g., savings, investment, internal and external economies, etc. A reworking of the theory in terms of such variables is essential, but not adequate for a thorough understanding of growth differentials. Without more knowledge of the impact of economic development upon the human agent, and vice versa, growth differentials will continue to exhibit a large measure of mystery. In a tentative manner this article attempts to integrate (along with other things) certain evidence regarding the human agent into the main body of theory. Tentativeness is required by the paucity of relevant research.

Differential Savings and Investments

Now, the analysis will be continued from the point at which reference was made to Domar's work. To begin with, interregional income differentials would be associated with savings differentials and, thus, with differentials in the availability of funds for investment. Even for ordinary business purposes investment opportunities in the higher income areas would have first choice on the use of such funds. This would include opportunities in agriculture as well as in other sectors.[3] The tendency for investment funds to be more available in the region selected for the new plant, henceforth to be called the "developing region," and in nearby areas would be increased if, as seems probable, the central offices of financial institutions were located in growth centers rather than in other areas.[4] Interregional availability of funds for developing human capacities and ambitions would be even more unequal; about which more will be said later.

Internal and External Economies

In discussing interregional growth differentials Professor Myrdal suggests that for regions which begin first the process of development there are ". . . ever-increasing internal and external economies—interpreted in the widest sense of the word, for instance, a working population trained in various crafts, easy communications, the feeling of growth and elbow room, and the spirit of new enterprise . . ." which would fortify and sustain the continuous growth of the developing region at the expense of others.[5]

As evidence, one might examine the historic decline of the Indian textile industry in the face of enforced competition with imported textiles or the current difficulty of developing an Indian automobile industry. Under such conditions entrepreneurs in the retarded regions would encounter real cost disadvantages in most lines of production. As a result, with free trade, there might be a continuing net flow of investment funds away from the retarded regions (in spite of the low level of local savings)—forcing upon the local labor force (1) unemployment, (2) underemployment in agriculture, or (3) at best, employment in relatively low wage, capital extensive industry.

Migration Differentials

With a secular tendency for investment to be concentrated in a particular region, growth in the demand for labor would be concentrated in the same region, and population would not tend

[2] Evsey D. Domar, "Economic Growth: An Econometric Approach," *The American Economic Review*, Papers and Proceedings, May, 1952.

[3] Vernon W. Ruttan, "The Impact of Urban-Industrial Development on Agriculture in the Tennessee Valley and the Southeast," *Journal of Farm Economics*, February 1955. Rufus B. Hughes, Jr. "Recombining Resources in Low Income Agricultural Communities," Unpublished paper read at the Southern Economic Association meetings in Jacksonville, Florida, Nov. 15, 1952.

[4] Myrdal, op. cit., p. 28.

[5] *Ibid.*, p. 27.

to a geographic equilibrium. Instead, the influx of people to the developing region would continue.

If, as is suggested by nearly all relevant migration studies,[6] migration took a disproportionately large share of young adults, the burden upon development in outlying areas would be obvious. Residual populations of such regions would be left with inordinately large numbers of dependent old folks and children.[7] On this score, regions with net migration losses would face a dilemma. Without increased local investment rates, the situation would not be improved by measures to inhibit migration.

The above does not reveal the full extent of the burden. At least fragmentary evidence supports two additional hypotheses:

(1) Except where movement occurs over short distances or where the channels are well established by previous migrants from the same parent group, migration is selective, also, of the better qualified youth—judging qualifications in terms of initiative and education (and possibly native ability).

(2) Distance (or inaccessibility for any reason) discourages the amount of migration that occurs in response to any given differential in employment opportunities.

A part of this evidence will be cited here.

In studying migration of high school graduates from rural Minnesota, Floyd M. Martinson found that restless graduates with superior academic records were inclined to leave the rural community; while complacent students with poorer academic records were inclined to remain.[8]

Two studies of emigration from rural Tennessee are, also, consistent with the hypothesis. One study concerns movement from an area of Weakley County where, due to the area's convenient location relative to public transportation facilities (among other things), most families have well established personal contacts with previous emigrants now living in industrial areas of the North Central Region. The other study concerns movement from an area of Lincoln County which is less conveniently located and in which personal contacts with earlier emigrants are less general.

In recent years migration from the more conveniently located county has been non-selective relative to education, thus, taking proportionately more of the farm renter and laborer classes and leaving those who, by the right of inheriting farm property, have better income opportunities in the local area. In earlier times, before contacts with the outside were so well developed, migration from the area selected a larger share of the better educated.[9]

In contrast, migration from the less conveniently located county has continued to select proportionately more of the better educated from all economic classes, leaving local problems of development to be solved by the relatively uneducated.[10] Though family incomes were somewhat lower in the less accessible county (a larger share of the labor force being superfluous) the emigration rate was also lower. Such emigration differentials must, in large measure, explain the differences in economic levels between midwestern or northeastern rural communities and rural communities of the South—those in the South being less conveniently located relative to the major industrial centers.[11]

If, as these studies suggest, emigration from isolated regions takes a proportionately larger share of the restless, intelligent and educated young adults, regions that are remote from developing industrial centers would bear additional burdens of (1) losing a disproportionately large share of the most productive youth from each generation, as well as (2) not being so adequately relieved of superfluous population. The significance of such migration differentials in aggravat-

[6] Dorothy S. Thomas, *Memorandum on Migration Differentials*, Social Science Research Council Bulletin No. 43, 1938, p. 11. Everett S. Lee, *Migration Differentials*, Volume I, Prepared for Committee on Migration Differentials, Social Science Research Council, 1953, Chapter IV.

[7] Myrdal, *op. cit.*, p. 27.

[8] Floyd M. Martinson, "Personality Adjustments and Rural-Urban Migration," *Rural Sociology*, June 1955.

[9] Joe A. Martin, *Impact of Industrialization Upon Agriculture—A Study of Off Farm Migration and Agricultural Development in Weakley County, Tennessee*, Ph.D. Thesis, University of Minnesota, 1955.

[10] R. B. Hughes, Jr., *Low Incomes in Southern Agriculture: Population Adjustments*, Ph.D. Thesis, University of Chicago, 1959, Chapter 2. Also see: Lee, *op. cit.*, p. 132.

[11] Ruttan, *op. cit.*; Anthony M. Tang, "Industrial-Urban Development and Agricultural Adjustments in the Southern Piedmont, 1940–50," *Journal of Farm Economics*, August 1957; William H. Nicholls, "The Effects of Industrial Development on Tennessee Agriculture, 1900–1950," *Journal of Farm Economics*, December 1956.

ing interregional income differentials may best be appreciated in the light of Professor Schultz's contention that the major share of recent economic growth can only be understood in terms of improved human capacities, i.e., investments in education, health, etc.[12]

Differential Investment in Human Capacities

At this point it is relevant to consider the issue of interregional differentials in investment funds available for other than ordinary business purposes, i.e., for education, health, roads, etc. Only a small share of these investments are undertaken with expectations of business profits. Instead they are made by individuals (for the direct benefit of the individual or a relative) or by the public—not by business firms. It is convenient to consider here only expenditures for education and health, two of the main determinants of human capacities and motivations. In so doing there is no desire to down-grade the importance of other non-business investments.

The common practice is to treat investments in human productive capacities as consumption expenditures, thus, ignoring that such investments are the *sine qua non* of progress.[13]

In regions with below average incomes, as in the Southern United States, many young people receive inferior education, both in regard to quality and quantity. The same is true regarding medical care. As a result, at maturity they are less capable of recognizing and exploiting the opportunities that exist. As indicated previously, the better qualified are likely to be enticed away by superior opportunities in more advanced regions.

Differentials in Economic Motivations

Accomplishing interregional equality would be difficult enough if the residual populations of the less developed regions were only less capable than the populations of other regions. Evidence suggests that consequent to their history of low incomes, lack of education and the selectivity of outmigration (all of these being causally related) they are also less motivated to economic accomplishment.

In general, aspirations for income are limited by the experiences to which aspirants are exposed. Though concerned with different aspects of behavior, the ideas discussed here are closely related to what Professors Duesenberry and Galbraith have termed demonstration effects or dependence effects.[14] Persons reared with low incomes and living in communities where most people are poor tend to accept low incomes as normal, especially if their educational experiences have been so slight as to leave them substantially unaware of living conditions in other regions. Standards for economic status and accomplishment and, thus, socio-economic behavior tend to be adjusted in accordance with the concept of normality. Behavior in regard to migration, use of investment funds, education of children, birth rates, etc., are all affected.

Because their economic standards are low, populations of the less advanced regions fail to take full advantage of their economic potentials, i.e., in terms of income possibilities they utilize resources inefficiently. Suggestive evidence of the ineffective use of resources is contained in two analyses of income variations among families living in isolated, low-income rural communities.[15] In these studies little net association between variations in family incomes and family resources was observed. Efficiency in resource use seemed to be adjusted (upward or downward) to the level required for maintenance of a very low income standard.

Consequent to low economic standards they continue, also, to have high human fertility rates though they have little chance for providing the great bulk of their youth more than meager expenditures for health and education or other than low wage employment or (perhaps) unemployment. The influence of childhood economic circumstances upon human fertility is indicated by analyses of three sets of data from Tennes-

[12] T. W. Schultz, "Investment in Man: An Economist's View," *The Social Science Review*, June 1959. Also see: E. J. Long and Peter Dorner, "Excess Farm Population and the Loss of Agricultural Capital," *Land Economics*, November 1954, regarding the capital drain involved.

[13] Schultz, op. cit., pp. 109–112.

[14] James S. Duesenberry, *Income, Savings and the Theory of Consumer Behavior* (Cambridge, Mass.: Harvard University Press, 1952) and John K. Galbraith, *The Affluent Society* (Boston, Mass.: Houghton Mifflin Co., 1958).

[15] Rufus B. Hughes, Jr., "Demonstration Effects on Production," *Journal of Farm Economics*, Aug., 1960; "Marginal Returns on Agricultural Resources in a Southern Mountain Valley," *Journal of Farm Economics*, May 1954.

see.[16] All else the same, i.e., education, current income, etc., fertility rates were significantly lower among those reared under favorable economic conditions than among those reared under unfavorable conditions. This tendency was reinforced by an intercorrelation between childhood economic levels and educational attainments.

CONCLUSIONS

The process of human resource development and allocation, which leaves underdeveloped regions with a disproportionate share of inept people, would continue to be repeated (unless halted by chance events—as, for instance, the event that disturbed the initial equilibrium) until government or governments intervened to: (1) ensure a more equal geographic distribution of investment (2) restrict interregional trade (3) ensure the educational and vocational preparation of youth in underdeveloped regions, and/or (4) ensure mobility patterns that would relieve underdeveloped regions of superfluous people, but leave them a greater share of the types of people who would be essential for local development.

In a very real sense certain costs of greater equality would be negative. Because of the inherent inadequacy of free markets in regard to the development and geographic allocation of human resources, investments for developing the productive abilities of people do not approach the level at which marginal "social gains" would equal marginal "social costs." Conservative estimates place the rate of return on educational investments well above the returns on non-human capital forms.[17] More "adequate" development and use of human resources would involve public action and reshuffling of economic positions. But as we have seen, the current distribution is as much the result of chance as of merit.

Contrary to orthodox opinion, free trade is not an unmixed blessing for all parties involved. Consequent to the cost advantages discussed under the section entitled *Internal and External Economies*, competition from unrestricted interregional trade may stifle nearly all lines of lucrative development in the more retarded regions. In order to reach this conclusion one need not argue that free trade fails to maximize aggregate income, though in certain respects this may be the case. He need only argue that the lion's share of such gains are captured by the developed regions. As a matter of justice, the less developed regions might reasonably claim the right to (1) selective regulation of trade and/or (2) income transfers from developed areas.

As yet no reference has been made to what Professor Myrdal has termed "spread effects."[18] With sufficiently rapid technological progress, high rates of savings and investments, etc., real incomes in all areas might rise so rapidly and high as to cause interregional per capita income differentials to become insignificant. However, the fact that even in the United States such differentials are still relatively large does not argue well for leaving the problem of equality to be solved by "spread effects."

[16] Rufus B. Hughes, Jr., "Human Fertility Differentials: The Influence of Industrial-Urban Development on Birth Rates," *Population Review*, July 1959.

[17] See estimates made by Professor G. S. Becker in T. W. Schultz, *op. cit.*, p. 116.

[18] Myrdal, *op. cit.*, p. 31.

SLAVERY AND THE POPULATION OF THE SOUTH*

WILLIAM L. MILLER

Auburn University

I

The notion persists that slavery prevented much immigration into the South and thereby kept population in that area sparse.[1] Explicitly the argument appears in two forms. According to one, since slavery is inherently repulsive, many people avoided the South and even some of those who did settle there subsequently left. According to the second, slavery *per se* degraded labor, for what free man would want to do the type of work normally assigned to slaves? Even if one were willing to work in competition with slaves, owners of Negroes would tend to underbid the free man. Though these two commonly appear as separate versions, they are really two parts of a more comprehensive presentation of the case. The argument has never been fully developed; in fact, the third and probably most important part has been left implicit. While assertions abound that slavery prevented maintenance and accumulation of nonhuman resources, the point that the resulting lack of resources kept immigrants away has remained implicit. Consequently, part of the task of investigating the merits of the position that slavery kept the South thinly populated is to present a full statement of the argument supporting this position.

To a greater extent than is commonly realized, writers of the first half of the nineteenth century refuted the contention that slavery resulted in an undesirably small population for the South. Though recent scholars have continued the process, their largely valid ideas have not attained the circulation they deserve and have not filtered into widely used textbooks on the economic history of the United States. Even though some contemporary scholars have done efficient work on the problem, they have not produced a clear statement that slavery did not keep the South underpopulated and may well have packed more people into the region than would have arrived in its absence.

II

For many people it is self-evident that slavery drove some people out of the South and prevented many others from moving into that region and did so because slavery is inherently repugnant, because slavery put labor under a stigma, and because it enabled slaveholders to underbid free workmen. This belief is largely erroneous.

Did distaste for slavery lead to all or some outmigration from the South and also prevent some immigration into Slave States? Apparently no writer has ever attributed emigration from the South entirely to slavery.[2] In fact, emigration of most groups occurred largely as a consequence of such economic factors as (1) the existence of

* The author is indebted to the Graduate Research Committee of Auburn University for financial aid and to the editors of this *Journal* for helpful criticism.

[1] N. S. B. Gras, *A History of Agriculture in Europe and America*, 2nd ed. (New York: F. S. Crofts and Co., 1946), p. 411; L. C. Gray, *History of Agriculture in the Southern United States to 1860*, II (Washington, D. C.: Carnegie Institution, 1932, reprinted 1941), p. 940; D. L. Kemmerer and C. C. Jones, *American Economic History* (New York: McGraw-Hill Book Co., 1959), p. 254; A. M. Schlesinger, "Editor's Introduction," *The Cotton Kingdom*, by F. L. Olmstead (New York: Alfred A. Knopf, 1953), p. 1; C. W. Wright, *Economic History of the United States* (New York: McGraw-Hill Book Co., 1949), p. 305. Gray did not hold slavery entirely responsible but considered it a "factor of considerable importance." Wright also regards it as one among various factors. Kemmerer and Jones and authors of other representative texts subsequently cited generally lack the caution of Gray and Wright as do Gras and Schlesinger. For an earlier statement see J. E. Cairnes, *The Slave Power* (New York: Carleton, 1862), pp. 81–82.

[2] G. R. Taylor once came nearest to such a general statement when he asserted that opposition to slavery or lack of ability to acquire slaves caused many to leave the upland regions of the South Atlantic States for the Midwest. See his "Agrarian Discontent in the Mississippi Valley Preceding the War of 1812," *The Journal of Political Economy*, August 1931, p. 472. As evidence for his general statement, Taylor cites the following: J. Espy, *Memorandum of a Tour in Ohio and Kentucky in 1805*, Ohio Valley Historical Series, No. 7 (Cincinnati, 1871), pp. 22–23, and *The Commonwealth* (Pittsburgh, March 12, 1806).

low-priced land of high quality in the Midwest and (2) soil exhaustion in the older parts of the South.[3] It may well be that opposition to slavery did cause certain individuals and groups to leave the South, but even here it is easy to assign undue importance to antipathy to slavery. For example, S. B. Weeks concluded that dislike of slavery was an overwhelming influence leading to the decline in numbers and influence of Quakers in the South.[4] Nevertheless, as Weeks pointed out, many of the Quakers would have left the South even had slavery not existed there, and their extreme spirituality together with the aggressiveness of rival sects, particularly Methodists and Baptists, contributed toward contraction in their number and importance.[5] Finally, if opposition to slavery led many Quakers to leave the South, why did they or their ancestors settle in the Slave States in the first place?

If hatred of slavery as an institution did not cause most departures from the South, it can scarcely be blamed for lack of immigration into that region. Certainly white immigration into the South had occurred during the 17th and 18th centuries concurrently with importation of Negro slaves.

Many writers assert but do not think it necessary to present evidence that slavery put labor under a stigma and discouraged immigration of free workmen into the slave states.[6] If they mean, as they generally seem to, that the slave as a low-caste workman *per se* degraded labor, the evidence against them is at least strong enough to disturb their assurance. If, on the other hand, they imply that by increasing the supply of labor slavery reduced wages, they may be in a safer position.

Since many authors seem to think that slavery degrades labor regardless of its influence on the amount of labor, the primary task of the remainder of this section is to refute this assumption. The question of the effect of slavery on the supply of labor will be left largely for consideration in following sections.

Throughout the history of the South, much agricultural labor has been done by whites. Prior to 1860 the bulk of the white agricultural population of the region were yeoman farmers, nonslaveholders and small slaveholders.[7] Characteristically, small slaveholders labored alongside their Negroes, serving in the dual role as overseers and pacemakers.[8] Quite often nonslaveholding farmers hired slaves to assist them,[9] and it would be vain to search for one who felt himself degraded upon discovery that the slave gave a good account of himself as a workman.

Though Southern yeoman and poor whites did wish to keep Negroes in an inferior social position, they could depend upon slavery to hold them there. I am convinced that Southern farmers have generally not thought of the Negro as an economic rival. In part, I base this conclusion upon my own observations and those of relatives and friends. It gains support from literature on ante bellum periods. Whenever an author wishes to use specific examples to demonstrate opposition to Negro workmen on the part of pre-1860 whites, he takes his instances most often from expressions by skilled workmen and infrequently from those of the unskilled.[10]

How is one to explain the seemingly strange circumstance that Southern white farmers have generally not looked upon the Negro as an economic rival? In part, the explanation may lie in

[3] A. G. Smith, *Economic Readjustment of an Old Cotton State South Carolina, 1820–1860* (Columbia, S. C.: University of South Carolina Press, 1958), pp. 29–30, 33–36, 44.

[4] S. B. Weeks, *Southern Quakers and Slavery* (Baltimore, Md.: Johns Hopkins Press, 1896), p. 291.

[5] *Ibid.*, pp. 291–293.

[6] J. E. Cairnes, *op. cit.*, p. 54; M. S. Heath, *Constructive Liberalism, the Role of the State in the Economic Development in Georgia to 1860* (Cambridge: Harvard University Press, 1954), p. 355; H. Martineau, *Society in America*, II (Paris: A. and W. Galignani and Co., 1837), p. 68; J. Sterling, *Letters from the Slave States* (London: John W. Parker & Sons, 1857), p. 222; T. J. Wertenbaker, *The Old South* (New York: Charles Scribners' Sons, 1942), p. 232; C. W. Wright, *op. cit.*, p. 305.

[7] F. L. Owsley, *Plain Folk of the Old South* (Baton Rouge, La.: Louisiana State University, 1949), pp. 7–9; F. L. and H. C. Owsley, "The Economic Basis of Society in the Late Ante-Bellum South," *The Journal of Southern History*, February 1940, p. 30.

[8] J. C. Calhoun, "Speech on the Oregon Bill," *The Works of John C. Calhoun*, ed. by R. K. Crallé, IV (New York: D. Appleton and Co., 1888), 505; K. M. Stampp, *The Peculiar Institution* (New York: Alfred A. Knopf, 1956), pp. 7, 35–36; J. Sterling, *op. cit.*, p. 222.

[9] K. M. Stampp, *op. cit.*, p. 71.

[10] For examples see the following: M. S. Heath, *op. cit.*, p. 353; R. B. Morris, *Government and Labor in Early America* (New York: Columbia University Press, 1946), pp. 182–188, 524; T. J. Wertenbaker, *op. cit.*, pp. 229, 232–233.

the fact that white Southerners have long been accustomed to the Negro's participation in agriculture. In all probability, market conditions have been a much more potent factor leading to this circumstance. Individual farmers, large or small, have never been significant enough to influence price. If the earth swallowed up a small farm or a plantation, no rise in price occurred. Though a farmer may envy the success of his black or white neighbor, he does not do so because this neighbor has secured a larger fraction of the market.

Those who have interpreted idleness of the Southern rural poor as the inevitable result of degradation of labor by slavery doubtless have been mistaken as to its source. Apparently they have assumed that work was always available at a wage above objective alternative costs. Though the fact that many were idle for lack of opportunity for employment escaped many authors, Governor Hammond of South Carolina, the industrialist William Gregg of the same state, and the New England engineer, C. T. James, repeatedly emphasized that the pre-1860 idle Southern whites were not rejecting proffered employment; the mere establishment of an employment-giving enterprise was in itself regarded as an act of philanthropy.[11] In spite of this contrary evidence, travellers and others found it hard to explain why many Southern rural folk preferred hunting and idleness to employment. They not only ignored the fact that jobs were not plentiful but they also failed to realize that hunting, fishing, and trapping had a positive marginal productivity in addition to the pleasure which these activities afforded.

Though some pre-1860 white Southern factory workers may have objected to working side by side with Negroes, both blacks and whites quite frequently worked together without apparent objection.[12] In contrast to agricultural and factory workers, artisans at times protested vigorously against the employment of Negro rivals, both slave and free.[13] That they should have expressed opposition accorded with the circumstances of their markets, for they produced in a limited market and were commonly significant enough to influence the price of their services. Even today some labor and professional groups fight successfully to exclude certain religious and racial groups from their ranks. Though nobody misinterprets the intent of restrictive practices currently employed, students of the pre-1860 South are likely to interpret similar actions as efforts to maintain the dignity of labor as abstract from the level of wages. A South Carolina law of 1750, which directed that no master was to allow his slave to work alone in his shop and required each master to employ one white apprentice or journeyman to every two Negroes, indicates that white artisans were primarily concerned with the level of wages.[14] Finally, we have John C. Calhoun's assurance that Southerners did not resent being employed to work with Negroes "in the same field or in any mechanical operation. . . ."[15]

A worthy companion to the notion that slavery degraded labor is the somewhat contradictory thesis that slavery contributed greatly to the self-esteem of even the poorest whites.[16] Since all whites ranked above slaves in the social hierarchy, the pre-1860 South should have been perpetually in disequilibrium and should have appealed greatly to new immigrants, who for the most part were very much like whites already resident in the South. While some Southerners

[11] For a statement by Gregg, see speech of his printed in *DeBow's Review*, August 1851, p. 127; for Hammond's view see his "Progress of Southern Industry," *DeBow's Review*, June 1850, p. 519 and "Southern Industry" in J. D. B. DeBow, ed., *The Industrial Resources of the Southern and Western States*, III (New Orleans: Office of *DeBow's Review*, 1853), p. 35; C. T. James, "Cotton and Cotton Manufactures at the South," *DeBow's Review*, June 1850, p. 558 and "The Production and Manufacture of Cotton with Reference to Its Manufacture in Cotton Growing States," *Hunt's Merchants' Magazine*, November 1849, p. 498. The significance of these statements by Gregg, Hammond, and James has escaped many writers but not A. G. Smith, Jr. See p. 128 of book cited in fn. 5.

[12] J. S. Buckingham, *The Slave States of America* (London: Fisher, Son & Co., 1840), II, pp. 111, 426; A. Kohn, *The Cotton Mills of South Carolina* (Charleston: The Daggett Printing Co., 1907), p. 16; E. M. Lander, Jr., "Slave Labor in South Carolina Cotton Mills," *The Journal of Negro History*, April 1953, p. 161.

[13] See fn. 10.

[14] T. J. Wertenbaker, *op. cit.*, p. 233. Wertenbaker cites *South Carolina Gazette*, July 9, 1750, Supplement.

[15] See fn. 8

[16] D. F. Dowd, "A Comparative Analysis of Economic Development in the American West and South," *The Journal of Economic History*, December 1956, p. 571; K. M. Stampp, *op. cit.*, p. 426.

might well have found the presence of slaves conforting, most whites were probably not dependent upon the slaves for bolstering their self-esteem. Most people have little difficulty convincing themselves that they are the equals of all who have surpassed them and superior to those who really are their equals. Perhaps slavery simplified the problem for some. At any rate, many people become attached to "inferiors" once these have been identified and are willing to devote considerable effort toward perpetuation of an established subordinate status. Many Southern whites have been less concerned to maintain the dignity of labor than to set up institutions for disciplining the Negro. Just as they exaggerate the degree to which slavery degraded labor, some writers place too much emphasis on the capacity of slavery to contribute to the self-esteem of the whites. If, however, they are taken at their face value, how can they conclude that slavery degraded the working white and at the time contributed to his self-esteem?

In short, slavery did little to degrade labor except that slaves added to the quantity of labor and thereby lowered its price. Had each slave been replaced by a free white man, the problem of the relative plentitude of labor would have remained. Idleness of white Southerners resulted from a scarcity of opportunities for work and from the positive marginal productivity of hunting and fishing. Lack of job opportunities for white Southerners suggests that it was redundance of labor and not slavery which for the most part prevented immigration into the South.

III

An interesting variant of the theme of oppression of free labor by the institution of slavery is the contention that the life of the free worker was made difficult because of the propensity of the slaveholder to underbid him. As a result of this alleged undercutting, immigration into the South was prevented and some free white residents were driven out. Even some sophisticated writers maintain that slaveholders were inclined to underbid free workmen and argue that they could do so because they could force slaves to work at a subsistence level.[17]

In part, the conclusion that slaveholders were prone to underbid free workmen probably resulted from misinterpretation of facts. In some cases slave labor may have been sold at an apparent but not real discount. Though such was often or even generally not so,[18] slave labor was doubtless in some cases less efficient than free, and selling the labor of a comparatively inefficient slave at a wage below that prevailing for other labor would not constitute underbidding. Furthermore, hiring of slaves may have involved nonmonetary returns and costs. Though nonmonetary returns are not generally mentioned, H. R. Helper thought they existed. According to him, so prestigious was it to have a Negro in evidence that some nonslaveholding whites paid higher wages for slave labor than they would offer free whites.[19] Perhaps more often nonmonetary costs outweighed nonmonetary gains, so that a lower explicit wage was paid for slave than for free labor. If wages of free labor exceeded explicit money wages of slave labor only by an amount equal to the nonmonetary costs of slave labor (food, clothing, and shelter in case of long-period or even short-period hiring, antipathy toward Negroes, and so on), no undercutting by the slaveholder occurred.

If slaveholders did engage in cutthroat competition with free workers, such behavior was most likely to characterize limited markets like those for the services of artisans. By such tactics a slaveholder could hope at times to obtain more work for his skilled slaves in the short run or to chase the skilled white out of the locality. The white workman, however, might not leave but might simply reduce his charges, so that the slaveholder would not gain and perhaps retire from the market. The theory of oligopolistic markets provides still another solution. The slaveholder and the free artisan might share the market at the existing price, particularly if this market were expanding.

Though at times cutthroat tactics may have characterized some markets in which few sellers or buyers operated, that slaveholders did not underbid free workers in more general markets

[17] For example, see K. M. Stampp, *op. cit.*, p. 426. At least one economist has concluded that because of slavery there was no labor market in the South. See R. M. Robertson, *History of the American Economy* (New York: Harcourt, Brace and Co., 1955), p. 100.

[18] See Section IV below.

[19] H. R. Helper, *The Impending Crisis* (New York: A. B. Burdick, 1860), p. 380.

is indicated by the fact that some Southern factories employed only whites while others used only slave labor or worked whites and blacks side by side at the same jobs.

Certainly underbidding did not exist in agriculture. Even the largest slaveholder was too insignificant to influence the price of the commodity he produced. Peak demands for agricultural labor by those seeking to hire workmen tended to come at times when the poorer whites were busy with their own affairs.

In summary, the logic of circumstances argues against extensive underbidding of free labor by slaveholders.

IV

Still another aspect of the thesis that slavery kept immigrants away from the South is that existence of the institution reduced the stock or prevented accumulation of nonhuman resources. Allegedly this circumstance resulted from one or more of the following supposed facts: (1) Slaves were unfit for industrial work; (2) slavery led to mining of the soil; (3) slave labor contributed to the plantation economy and helped to create a romantic view of the agrarian way of life and dislike for modern industrialism; (4) investment in slaves prevented investment in other directions.

(1) Published statements that the slave was unfit for industrial work are becoming rare. Instead most recent authors support the contrary position. They note that Negro slaves were successfully employed in mining, quarrying, canal-building, railway construction, tanning, ginning of cotton, processing of tobacco, textile manufacturing, lumbering, and iron production.[20] In short, the slave performed satisfactorily as a workman in all forms of economic activity carried on in the South. Even if the slave had been ineffective in all activities outside agriculture, Southern businessmen would not have been hampered by shortage of labor, for free white labor was available from the ranks of the unemployed and underemployed.[21] In general, agriculture offered the most profitable employment for labor, free and slave. Essentially there was nothing hidden, mysterious, and sinister about allocation of productive resources to agriculture.[22]

(2) Though its lack of merit was exposed over a century ago and finally it seems actually to be withering away, the notion that slavery was responsible for the destruction of the Southern soil abides with us yet.[23] By pointing out that cheapness of soil in relation to labor led to exhaustion of the former in all newly settled countries, by indicating that the most profitable and developed farms of lower Virginia were cultivated by use of slave labor, and by explaining that the more intensive tillage required by Southern crops and comparatively heavy rainfall brought about extensive erosion, E. Ruffin should have ended the discussion as long ago as 1853.[24] Much nearer our own time, L. C. Gray in 1932 labeled the formulation which attributes exhaustion of Southern soil to slavery an absurdity.[25] Subsequently, historians and economists have pointed to other factors which account for the low quality of most Southern soil.[26] On the whole, both Northern and Southern farmers wasted the soil for the simple reason that it was relatively plentiful and labor comparatively dear. In the South exceptions were generally slaveholders who first introduced improved methods. Throughout most of the South, the topsoil was never deep and erosion resulted not from slavery but from the hilly nature of the countryside, heavy rainfall, and prolonged failure to employ contour plowing and proper drainage. In addition, much of the coastal area of the South consists either of bogs and swamps or of light sandy soil which leaches easily. In spite of this evidence, authors of text-

[20] J. S. Buckingham, *op. cit.*, II, p. 111; A. Kohn, *op. cit.*, p. 16; E. M. Lander, Jr., *op. cit.*, p. 161; J. C. Robert, *The Tobacco Kingdom* (Durham: Duke University Press, 1938), pp. 197–208; A. G. Smith, Jr., *op. cit.*, pp. 114, 127; K. M. Stampp, *op. cit.*, pp. 60–67, 415; C. S. Sydnor, *Slavery in Mississippi* (New York: D. Appleton-Century Co., 1933), pp. 6–8.

[21] See fn. 11.

[22] *Cf.*, for example, D. L. Kemmerer and C. C. Jones, *op. cit.*, p. 254; R. M. Robertson, *op. cit.*, p. 101.

[23] H. U. Faulkner, *American Economic History*, 7th ed. (New York: Harper & Bros., 1954), p. 320; R. M. Robertson, *op. cit.*, p. 101; A. M. Schlesinger, *op. cit.*, p. 1.

[24] E. Ruffin, "Southern Agricultural Exhaustion and Its Remedy," *DeBow's Review*, January 1853, especially pp. 34, 38.

[25] L. C. Gray, *op. cit.*, II, p. 940. See also A. O. Craven, *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland*, University of Illinois Studies in the Social Sciences, XIII (1925).

[26] For example, see C. B. Hoover and B. U. Ratchford, *Economic Resources and Policies of the South* (New York: Macmillan Company, 1951), pp. 3–5; K. M. Stampp, *op. cit.*, pp. 394–395.

books have continued and probably will continue to impute destruction of the soil of the South to slavery.

(3) Though there was in some areas of the South prejudice against manufacturing and trade,[27] both the extent and significance of this attitude are easily exaggerated. Most Southerners wanted to improve their positions in life and willingly undertook any available enterprise which might lead to realization of this goal. Though some agriculturalists in older parts of the South might oppose introduction of manufacturing into the South, most Southerners were opportunists and had little respect for precedent. For most of them, Andrew Jackson—a man eager to advance by practice of law, politics, mercantile trade, military endeavors, agriculture, or any other promising line of action—was more likely to serve as model than the established aristocratic planter of Virginia or South Carolina. Doubtless, most energetic and ambitious Southerners conformed to Harriet Martineau's description of the planters in and around Montgomery, Alabama: "They are, from whatever motive, money-getters; and few but money-getting qualifications are to be looked for in them."[28]

Many Southerners regarded manufacturing and trade as acceptable lines of activity and argued for the establishment of manufacturing plants on mercantilistic grounds.[29] According to them, manufacturing was desirable to add to the South's strength, to provide employment for the poor, to prevent emigration of labor and capital, and to reduce dependence upon outsiders.

(4) Finally, it is argued that slavery tied up investment that might have been used differently to promote economic development of the South and that as a consequence the institution kept the South unattractive from the standpoint of the immigrant. At the outset, consideration of this matter demands recognition of the fact that importation of slaves was proscribed in 1808. During the pre-1808 period there can be no doubt that agriculture offered the most attractive avenue for investment; investment in slaves was simply part of this process. Opportunities in other lines of activity were limited in the extreme. Once the Negro was in America, it was, short of imposition of birth control or murder, impossible to avoid investment in his offspring. Had the Negro been replaced by free whites, the problem of investment in human beings would have remained. All countries must invest in human capital. The returns from such investment will in some circumstances be very low or even zero. For example, it has been estimated that in India about 20 per cent of the national income is spent upon children who die before attaining the age of 15.[30]

It is entirely possible that slavery distorted investment after 1808. First, it probably kept investment in individual Negroes below the optimum, but the extent to which it did so is not now measurable. Second, if slavery resulted in a larger Southern population than would have existed in its absence, it tended to cause more investment in human capital than would otherwise have occurred. Third, as Sir Charles Lyell wrote, rich planters "from motives of kindly feeling towards retainers, and often from false pride" sometimes failed to sell their slaves and by this neglect prevented an economically more efficient allocation of labor.[31] On the whole, however, slavery was profitable to slaveholders,[32] and the profits were available to the owners for outlay on consumption and investment. The idea that capitalization of slave labor itself prevented investment elsewhere makes no more sense than to argue that payment of wages to free workmen prevents saving by the employer.

If slavery was necessary for the development of Southern plantations and if the owners were

[27] L. C. Gray, *op. cit.*, II, p. 933; A. G. Smith, Jr., *op. cit.*, p. 120.

[28] Harriet Martineau, *op. cit.*, I, p. 453.

[29] See almost any issue of *DeBow's Review*. Professor E. M. Lander's careful reading of the Charleston dailies, the *Courier* and the *Mercury*, yielded many instances of advocacy of home industry and no evident opposition. See his "Charleston: Manufacturing Center of the Old South," *Journal of Southern History*, August 1960, pp. 330, 348–349. On the attitudes of some Mississippi planters, see R. W. Griffin, "Manufacturing Interests of Mississippi Planters, 1810–1832," *The Journal of Mississippi History*, April 1960, pp. 110–122.

[30] S. Enke, "Speculations on Population Growth and Economic Development," *The Quarterly Journal of Economics*, February 1957, p. 23.

[31] Charles Lyell, *Travels in North America in the Years 1841–2* (New York: Wiley and Putnam, 1845), p. 147.

[32] A. H. Conrad and J. R. Meyer, "The Economics of Slavery in the Ante Bellum South," *The Journal of Political Economy*, April 1958, pp. 95–130.

TABLE I

PERCENTAGE DISTRIBUTION OF POPULATION BY REGIONS OF THE UNITED STATES, 1790–1860

Region	1790	1820	1860
South	49.9	45.9	35.4
South Atlantic	47.1	31.8	17.1
East South Central	2.8	12.4	12.8
West South Central	—	1.7	5.6
Northeast	50.1	45.2	33.7
North Central	—	8.9	28.9
West	—	—	2.0

Source: Bureau of the Census, *Census of Population: 1950*, II (Washington, D. C.: U. S. Government Printing Office, 1953).

TABLE II

GROWTH IN URBAN POPULATION IN SOUTH ATLANTIC STATES AND NORTHEAST BY DECADES, 1790–1860

	Percentage Growth in South Atlantic	Percentage Growth in Northeast
1790–1800	84.6	53.3
1800–1810	56.0	55.4
1810–1820	37.7	26.3
1820–1830	35.6	63.5
1830–1840	33.8	59.6
1840–1850	51.7	82.7
1850–1860	33.6	65.5

Source: Same as Table I.

spendthrift, profits would not result in capital accumulation and failure to develop might in part be imputed to slavery. Growth of plantations depended upon an adequate supply of labor, slave or nonslave. Perhaps without slavery the South would not have acquired enough labor for continued development of the plantation system though existence of plantations in the South predates extensive use of slavery. It remains to show that planters were or were not spendthrift consumers. To date there have been many unsubstantiated assertions that planters as a class practiced conspicuous consumption. Though no attempt has been made to measure the marginal and average propensities of planters to consume and to compare these rates with those of similar income groups elsewhere, enough evidence exists to destroy the generality of the thesis that planters were wasteful spenders. While some planters doubtless lived beyond their means, others, a thin upper crust, were truly wealthy men.[33] Recitation of expenditures of very wealthy planters leaves a distorted picture unless these are put into their general setting. On the other hand, most planters were not of the leisure class, were not even wealthy, but were actively trying to build up their estates.[34]

Those who impute economic backwardness of the South to slavery have probably overemphasized the role of manufacturing and trade as sources of the relative advance of the North. It should be kept in mind that industrialization began to accelerate only after 1840, as Kemmerer and Jones point out,[35] and that most industrialization of the United States occurred after the Civil War. Population movements, particularly settlement of the area now occupied by the North Central States and urbanization, indicate something about sources of the relative growth in the economic strength of the North. Of these two, Table I shows that extension of the agricultural frontier into the area of the North Central States was probably the more important reason for relative pre-1860 decline in the importance of the South. Thus, population in the North Central area rose from a negligible part of the total in 1790 to 28.9 per cent in 1860; population in the Northeast represented 50.1 per cent of the total in 1790 but only 33.7 per cent in 1860; in 1790 the population of the South formed 49.9 per cent of the total, but by 1860 the share of the South had dropped to 35.4 per cent despite expansion of the South to include the East and West South Central areas. Clearly it was not merely the growth of industry and trade that accounted for the advance of the North.

Growth in urban population provides one index of the expansion of trade and manufacturing. While for the period 1790–1860 as a whole urban population increased at a much faster rate in the Northeast than in the South Atlantic States, the most urbanized part of the South, it is some-

[33] C. S. Sydnor, *The Development of Southern Sectionalism 1819–1848* (Baton Rouge, La.: The Louisiana State University Press, 1948), p. 25; H. Weaver, *Mississippi Farmers 1850–1860* (Nashville, Tenn.: The Vanderbilt University Press, 1945), pp. 47–48, 108–111.

[34] H. Weaver, *op. cit.*, p. 48; see also F. L. Olmstead, *The Cotton Kingdom* (New York: Alfred A. Knopf, 1953), especially pp. 16–17.

[35] D. L. Kemmerer and C. C. Jones, *op. cit.*, p. 254.

what surprising to find that, as indicated in Table II, urban population expanded faster during 1790–1820 in the South Atlantic States than in the Northeast. Thereafter the Northeast forged ahead. If slavery were a strong deterrent to the growth of manufacturing and trade, how is one to account for the relatively rapid growth of the urban centers of the South Atlantic States during 1790–1820?

In short, there is no clear-cut evidence that in the South slavery hastened destruction of some nonhuman resources and significantly prevented accumulation of others. Only if such evidence existed would it be reasonable to argue that, by keeping the quantity of nonhuman resources small, slavery made the South unattractive to newcomers to the United States and to the native born living outside the South.

V

If one accepts the foregoing argument that slavery by and large did not keep people out of the South by degrading labor, by permitting slaveholders to underbid free labor, by fostering a bias against manufacturing and trade, and by wasting or preventing accumulation of nonhuman resources, one can still believe that the presence of Negro slaves not only prevented some immigrant Europeans and nonsouthern native whites from moving into the South but also caused native white Southerners to leave for other sections. Slaves did so simply by occupying economic space. Had there been no slaves, more Europeans might have found room in the South; almost certainly fewer white Southerners would have left the region of their birth.

Surely, however one cannot extend the argument to maintain that slavery kept Southern population sparse. Outmigration of Southerners and lowness of incomes of those remaining indicate that the South was overpopulated in relation to the North.

Migration of Southerners prior to 1860 indicates that in terms of economic opportunities the older parts of the South were more densely populated than the older parts of the North. Table I shows that from 1790 to 1860 the population of the South Atlantic States dropped relatively from 47.1 per cent of the total for the United States to 17.1 per cent. At the same time population of the Northeast declined relatively from 50.1 per cent of the total to 33.7 per cent. Since fewer immigrants from Europe were settling in the South than elsewhere in the United States, the older parts of the South should not have lost relatively as many people through migration to other parts of the country as did the Northeast unless the South Atlantic region were poorer than the Northeast.

According to data in the 1850 census, the six states experiencing the largest amount of net emigration of native whites were (1) Virginia with a reported net of 335,000, (2) North Carolina with 262,000, (3) New York with 259,000, (4) Pennsylvania with 252,000, (5) South Carolina with 174,000 and (6) Kentucky with 119,000. As reported in the same census, 969,000 native whites born in Virginia, the Carolinas, Georgia, Tennessee, and Kentucky were living in other states. Southern states showing a net immigration of native whites (Alabama, Mississippi, Louisiana, Arkansas, Texas, and Florida) had only 455,000 native whites born in other states. By way of comparison, the border slave state of Missouri contained 205,000 native whites born in other states.[36] Because other regions offered better opportunities for economic achievement, the South was serving as a breeding ground for free whites as well as for Negro slaves.

Because of relative overpopulation, planters in the older parts of the South sold slaves for use in developing the Southern frontier. For example, it has been estimated that during 1820–60 the net slave emigration was 351,290 from Virginia and 170,000 from South Carolina.[37] Interstate traffic in slaves was economically desirable in that it moved labor from where it was less to where it was more needed. Had the slave been free, many of them would have left the states of their birth for the frontier, but doubtless a comparatively high percentage of these would have elected to go elsewhere than to one of the newer of the Southern regions. Perhaps an inflow of whites would have replaced some of the emigrating Negroes, but of this we cannot be certain.

Post-1860 migration of Southerners tends to confirm the thesis that the South was relatively

[36] For brief discussion of these and related matters, see T. R. Smith, "An Analysis of Past Migrations," Appendix A in C. Goodrich *et al.*, *Migration and Economic Opportunity* (Philadelphia, Pa.: University of Pennsylvania Press, 1936); Smith's discussion summarizes original work in C. W. Thornthwaite's *Internal Migration in the United States* (Philadelphia, Pa.: University of Pennsylvania Press, 1934), especially his Plate II.

[37] A. G. Smith, *op. cit.*, p. 26.

overpopulated. Abolition of slavery did not result in increased migration into the South; instead emigration continued. By 1880 significant net emigration of whites from the Southeast was again under way, and a similar movement of Negroes became notable by 1910.[38]

Outmigration of Southerners suggests that instead of being sparsely populated in relation to the North, the ante bellum South was overpopulated. Comparative wage levels provide another source of information about population density. Wages were definitely lower in the South. H. R. Helper estimated that Southern wages were only about 50 per cent as high as those in the North, but in fact they seem to have ranged between 20 and 40 per cent below them.[39] Lowness of Southern wages could have resulted only from a dearth of nonhuman resources, another name for excessive population.

Though slavery did not contribute to the relative overpopulation of the South by destroying some nonhuman resources and by preventing the accumulation of others, it may nonetheless have contributed to the burden of a relative excess of people. Slaves were brought into the South because they provided a cheaper source of labor than Europeans. At least, the situation contained the possibility that more people would be forced into the South than would voluntarily settle there, and the presumption lies in favor of the conclusion that slavery helped to render the South relatively overpopulated in comparison to the remainder of the United States but not to most regions of the earth. If, as L. C. Gray has declared, prohibition of importation of African slaves slowed up the growth of population of the South,[40] this action of 1808 helped to prevent further relative overpopulation of the South and even further depression of the per capita income of that section.

As a result of greater density of population, per capita income has been lower in the South than in the rest of the United States. Lowness of per capita income tended to keep out European immigrants. Because the services of an individual could be had at a comparatively low price, certain types of work were degraded. For example, once a Southern white woman of a medium or upper income family would lose caste by doing all her own housework. As incomes rise, more people want domestic servants and fewer people want to be servants. As a consequence, wages of domestic servants rise faster than most other incomes, and it becomes socially acceptable even for white women with good incomes to do more of their own housework. Largely the dignity of labor depends upon the wage level.

[38] R. B. Vance, *All These People* (Chapel Hill: University of North Carolina Press, 1945), pp. 109–120.

[39] H. R. Helper, *op. cit.*, p. 381; *DeBow's Review*, June 1850, p. 553; May 1854 p. 454; J. D. B. DeBow, ed., *The Industrial Resources of the Southern and Western States*, III, p. 32; K. M. Stampp, *op. cit.*, p. 426.

[40] L. C. Gray, *op. cit.*, II, p. 936.

ORGANIZED LABOR AND THE TARIFF

ROBERT D. LEITER

City College of New York

For many years the idea has prevailed that labor constituted a major force in the "Buy-American" campaign of the 1920's and favored high tariffs and tight curbs on immigration.[1] Although scholars support the conclusion that the labor movement has been outspoken in demanding curbs on immigration,[2] they do not show that either the federated labor movement or the preponderance of individual international unions favored high tariffs. Indeed, even in the 1920's and 1930's, when labor support for higher tariffs was more general than usual, only a relatively small segment of organized labor was involved in the drive. Most of the trade unions were indifferent, neutral, or hostile to efforts to raise import duties.

Two main aspects of the relation of labor unions and the tariff may be considered. First of all, it is important to analyze reactions of labor federations. These bodies, which primarily exist to help their affiliated unions gain better working conditions, nevertheless recognize that organized workers also have interests as consumers. Secondly, it is desirable to clarify and classify the attitudes expressed by individual trade unions. Such organizations are concerned mainly with the task of increasing the compensation of their members and only incidentally with the improvement of general economic welfare.

From the time the nation was founded, the tariff issue has been a source of continuous controversy in the United States. Proponents of high tariffs and free trade formulated many economic and political arguments before organized labor began to express its views. Subsequently, as the occasion warranted, the labor movement participated in the debate. During the past half century, new theoretical justifications to support both higher and lower tariffs have been suggested.

I

Labor federations are made up of a large number of international and national unions and therefore have been subject to the pressures of diverse and conflicting interests on questions relating to the tariff. For this reason federations generally have remained neutral or indicated their position in vague language. Only in rare instances has the tariff policy of labor federations been free from confusing qualifying phrases and clauses.

The Federation of Organized Trades and Labor Unions, precursor of the American Federation of Labor, became involved in the tariff debate at the very beginning of its existence. In 1881 the first annual convention was the scene of a bitter dispute. Three distinct positions were evident on the tariff question. Some delegates wanted the labor movement to support protection, others preferred a resolution favoring free trade, and a third group thought that organized workers should shun the issue and remain neutral. The attitudes of the delegates to

[1] There are only occasional and incidental references in the literature to the attitude of organized labor towards the tariff but they generally allege that unions desire protection. See *New York Times*, August 17, 1959, p. 8:4; Henry C. Simons, "Some Reflections on Syndicalism," *The Journal of Political Economy*, March 1944, p. 23; Harold U. Faulkner and Mark Starr, *Labor in America* (New York: Oxford Book Co., 1957), p. 74; J. William Terry, *American Labor and the Trade Agreements* (Des Moines, Iowa: Economic Policy Committee, 1939), pp. 6, 13, 18; John R. Commons and John B. Andrews, *Principles of Labor Legislation* (New York: Harper & Bros., 1936), p. 511; Mary R. Beard, *The American Labor Movement* (New York: Macmillan Company, 1928), p. 14; Howard R. Smith, *Economic History of the United States* (New York: Ronald Press Company, 1955), p. 269; Charles P. Kindleberger, "International Trade and United States Experience: 1870–1955," in Ralph E. Freeman, ed., *Postwar Economic Trends in the United States* (New York: Harper & Brothers, 1960), pp. 367–368; and United States Department of Labor, *The American Workers' Fact Book*, 1956, p. 134. No mention of the subject is found in any of a score of currently used textbooks in labor economics. The most recently published scholarly article dealing with organized labor and the tariff appeared in 1930. See Lyle W. Cooper, "The Tariff and Organized Labor," *American Economic Review*, June 1930, pp. 210–225.

[2] Philip Taft, *The A. F. of L. in the Time of Gompers* (New York: Harper & Bros., 1957), pp. 302–308.

some extent reflected the political parties with which they were affiliated, the industries in which they worked, or the regions from which they came. When the vote was held, proponents of protection won by a close margin.[3]

The following year, however, when the convention met again, the battle was resumed and waged with great vigor. After listening to a long paper on the merits of free trade and debating the issues, the delegates decided to modify the platform of principles and eliminate the plank which had put the Federation on record in favor of protection.[4] The convention thus assumed a position of neutrality.

But the president of the Amalgamated Association of Iron and Steel Workers construed the action differently. In 1883, he wrote a letter to the convention to deplore what he considered a condemnation of protection. He stated that his union was vitally affected by the tariff issue and therefore could not continue its affiliation with the Federation.[5] Attempts by the Federation to clarify its stand were unavailing. The iron workers withdrew and did not again send delegates to the federated house of labor until 1887.[6]

In 1906, Samuel Gompers gave the first clear indication that the American Federation of Labor was neutral on the question of protection versus free trade, and intended to remain so.[7] In response to a letter inquiring about the attitude of the AFL towards the tariff, he explained that the organization had not taken up the matter of the tariff since 1882 and had "found this to be the most advantageous to the movement in this country."[8] Gompers added that some unions supported protection and a smaller number espoused free trade; but American workers depended primarily upon the labor movement, not the tariff policy of the government, to advance themselves economically. The AFL, he concluded, was neutral on the subject of the tariff.

Later that year, the convention of the AFL rejected two resolutions demanding elimination of steel tariffs. The proposals were intended to aid the bridge and structural iron workers, involved in a struggle with the steel companies, to obtain higher wages.[9] However, motions favoring higher tariffs on printed books and skirted wool were approved. An unsuccessful attempt was made to force the convention to reconsider the tariff decisions. The vote was 75 to 79.[10] The following year, when three tariff resolutions were introduced, James Duncan of the granite cutters, a vice president of the AFL, declared that the tariff resolutions of the preceding year had "caused about as much commotion as anything in the convention." The resolutions committee therefore referred the proposals to the executive council of the AFL for action in order to avoid opening "the flood gates in this convention to the tariff question."[11] The delegates unanimously approved this position.

Over the years, resolutions dealing with tariff matters that came before conventions of the AFL usually were referred routinely to the executive council for appropriate action. Sometimes, however, the issues aroused strong emotion among the delegates. But the tariff was never considered in connection with the establishment of any general policy by the labor movement; discussion always was focused on a request by some union for support for a specific and limited objective.

In 1929, William Green, president of the AFL, told the convention: "The American Federation of Labor has never committed itself to the support of a protective tariff or free trade. We have avoided most scrupulously and carefully that controversial field." He said that the AFL was involved only to the extent that it followed instructions of its conventions to assist those unions that requested help in lobbying for increases or reductions in specific tariff proposals. Green added: "Our position has always been made plain, however, that we support the proposition because the international unions directly

[3] Federation of Organized Trades and Labor Unions, *Report*, 1881, pp. 19–20. Typically, Easterners were for protection and Westerners for free trade.

[4] *Ibid.*, 1882, p. 16. The vote was 17 to 1.

[5] *Ibid.*, 1883, pp. 18–20.

[6] Resolutions introduced at the AFL conventions of 1889, 1892, and 1895 dealing with the tariff were rejected by the delegates.

[7] *American Federationist*, April 1906, p. 238. Gompers pointed out that as president of the AFL he could not express his personal sentiments in public.

[8] *Ibid.*, p. 236.

[9] Some delegates felt that elimination of the tariff on steel would encourage competition in the industry and help break the "steel trust."

[10] American Federation of Labor, *Report of Proceedings*, 1906, pp. 227, 234.

[11] *Ibid.*, 1907, pp. 334–335.

involved have asked us for that support."[12] This attitude was approved at the 1931 convention.[13] In 1934, the convention refused to pass a resolution in favor of higher tariffs.[14]

The general satisfaction expressed by the American Federation of Labor for the New Deal and the Roosevelt administration carried over to the reciprocal trade agreements program enacted in 1934. This law, which shifted much of the tariff-making process from Congress to the President, set forth a policy of gradually and consistently lowering the imposts of the United States. Until 1943, however, the position of the AFL was not firm. Union leaders opposing the policy of tariff reduction were well-organized and presented their views to Congress at hearings held in 1934, 1937, 1940, and 1943. They drew support from the resolution approved unanimously by the executive council of the AFL in 1938 that criticized "reciprocal trade treaties which discriminated against American workers,"[15] and the policy statement made by the AFL executive council to Democratic and Republican party platform committees in 1940 which declared that American workers must be protected legislatively against competition from products of workers in countries with lower labor standards.[16] It was not until 1940 that a few labor leaders testified on behalf of the reciprocal trade program. Conflicting press reports dealing with the Federation's position led Cordell Hull to release a letter from William Green stating that the AFL was not opposed to the continuance of the reciprocity program.[17] However, some labor leaders alleged that testimony given by Green to the House Ways and Means Committee, in April 1943, to support reciprocal trade represented personal views and not those of the AFL.

Both the executive council and the convention of the AFL took a clear and strong position for the program later in 1943.[18] Although the executive council continued to endorse the reciprocal trade principle of lower tariffs, the first signs of opposition to this policy were manifest in the convention of 1948 when a statement was approved indicating need for safeguarding labor in those industries where further reductions would endanger employment opportunities.[19] It is interesting that modification came about under guidance of the resolutions committee, of which Matthew Woll, one of the most ardent protectionists in the labor movement, was chairman. Two years later the convention endorsed the idea that market advantages derived from lower wage standards abroad should be eliminated by tariff.[20]

In 1955, the AFL sent a memorandum to Congress expressing support for the amendments to the law which had added no-injury rules, peril-point provisions, and escape clauses. These three protective devices are invoked only if in the opinion of the United States Tariff Commission and the President tariff concessions are causing "serious injury" to domestic industry. The AFL statement said: "We do not believe that our position can be labeled as simply free trade or protectionist. . . . While we recognize certain practical limits to the reduction of trade barriers, this is not to say that tariffs must be frozen at their current level or that there is no room for further tariff reductions. . . . a gradual tariff reduction could bring increased imports without causing significant dislocations or loss of employment."[21]

On many occasions prior to the merger in 1955, the AFL tried to help affiliates secure higher tariffs on specific commodities. It passed resolutions at various conventions calling for higher duties on eggs, meat, newsprint paper, leather

[12] *Ibid.*, 1929, p. 376. See also Lewis L. Lorwin, *The American Federation of Labor* (Washington, D. C.: Brookings Institution, 1933), p. 436.

[13] American Federation of Labor, *op cit.*, 1931, p. 304.

[14] *Ibid.*, 1934, p. 721.

[15] United States House of Representatives, Committee on Ways and Means, *Hearings: Extension of Reciprocal Trade Agreements Act*, 76th Congress, 3rd Session, 1940, p. 1369.

[16] United States House of Representatives, Committee on Ways and Means, *Hearings: Extension of Reciprocal Trade Agreements Act*, 78th Congress, 1st Session, 1943, p. 994. See also Francis B. Sayre, "Does American Labor Stand to Win or Lose by Trade Agreements?" *Political Science Quarterly*, June 1939, pp. 175–186.

[17] United States House of Representatives, Committee on Ways and Means, *Hearings: Extension of Reciprocal Trade Agreements Act, op. cit.*, 1940, pp. 1395–1396.

[18] American Federation of Labor, *op. cit.*, 1943, pp. 85, 384.

[19] *Ibid.*, 1948, pp. 166, 450–451.

[20] *Ibid.*, 1950, p. 459.

[21] United States House of Representatives, Committee on Ways and Means, *Hearings: Trade Agreements Extension*, 84th Congress, 1st Session, 1955, pp. 2551–2554.

products, motorcycles, bicycles, transcriptions, pottery, stained glass, mirrors, monuments, and other goods. But in general, the AFL upheld the broad purposes of the reciprocal trade agreements program from the outset. It contended that it was attempting to achieve expanded international commerce within the framework of "fair competitive standards." This meant that each tariff concession had to be made under conditions that protected employment opportunities of American workers and safeguarded the wage structure and working conditions prevailing in the United States.[22]

The Congress of Industrial Organizations, formed in 1938, always maintained a policy supporting the reciprocal trade program and reduction of tariffs. The CIO was dominated by a group of industrial unions functioning in industries which were capital-intensive and successful competitors of foreign producers. It was therefore more disposed than the AFL to take a firm position for lower tariffs. Some AFL craft unions, operating in less capital-intensive industries where productivity was not necessarily sufficiently high to offset wage differentials between the United States and the rest of the world, were inclined to seek tariff protection and to call upon the AFL for help.

In 1943, J. Raymond Walsh, director of research of the CIO, testified that the CIO favored continued negotiation of trade agreements; and on a number of occasions beginning in 1945, James B. Carey, secretary-treasurer of the CIO, asserted that the CIO unqualifiedly supported extension of the law.[23] Philip Murray set forth his views on the tariff question in the presidential report to the CIO convention of 1949; he approved the reciprocal trade agreements program and urged the elimination of obstacles to free trade.[24] In 1954, when Walter P. Reuther was president of the CIO, he expressed similar sentiments to the convention. Reuther added that the CIO favored measures to safeguard workers displaced by production shifts resulting from foreign trade but opposed all proposals to raise duties on specific commodities.[25] During the convention sessions of 1954, delegates discussed the economic difficulties of the textile industry at great length, but did not propose higher tariffs to reduce adverse effects of foreign competition on domestic production.[26] Indeed, throughout the history of the CIO, no effort was made in any instance to put the CIO on record for higher duties on imports.

The statement made on behalf of James B. Carey at the 1949 Senate committee hearings on extension of reciprocal trade clearly illustrates the position of the CIO. Carey said: "The number of American workers affected by reduced tariff is very limited, whereas all workers as consumers are injured by high tariffs. It must be remembered that wages of American workers in industries which are typically high protected industries are lower than the wages in the industries with little or no protection."[27] Six years later, Carey stated that he did not oppose reduction of tariffs even when such action might injure some segments of industry. David J. McDonald, president of the steel workers, declared that he did not have "the slightest feeling" that a greater volume of imports would injure American workers.[28]

In February 1956, at its first meeting, the executive council of the merged American Federation of Labor and Congress of Industrial Organizations declared that the labor movement supported a policy calling for gradual lowering of trade barriers. The council proposed, however, that American workers adversely affected by liberalization of tariffsshould be safeguarded by a program of adjustment and that fair labor standards throughout the world should underlie international trade.[29] In 1958, the AFL-CIO

[22] American Federation of Labor, *op. cit.*, 1955, p. 119.

[23] United States House of Representatives, Committee on Ways and Means, *Hearings: Extension of Reciprocal Trade Agreements Act, op. cit.*, 1943, p. 1068; United States Senate, Committee on Finance, *Hearings: 1945 Extension of the Reciprocal Trade Agreements Act*, revised, 79th Congress, 1st Session, 1945, p. 323.

[24] Congress of Industrial Organizations, *Proceedings*, 1949, pp. 118–119.

[25] *Ibid.*, 1954, pp. 214–215. The CIO convention was considering proposals to support higher duties on lead, zinc, and Swiss watches.

[26] *Ibid.*, pp. 605–610.

[27] United States Senate, Committee on Finance, *Hearings: Extension of Reciprocal Trade Agreements Act*, 81st Congress, 1st Session, 1949, p. 627.

[28] United States House of Representatives, Committee on Ways and Means, *Hearings: Trade Agreements Extension, op. cit.*, 1955, pp. 654, 766. McDonald's statement recognized that temporary injury to specific workers, industries, and communities is possible.

[29] American Federation of Labor and Congress of Industrial Organizations, *Proceedings*, Volume II, 1957, pp. 184–185.

continued to support proposals to reduce tariff barriers to trade and urged extension of the reciprocal trade agreements program for at least five years.[30]

Spokesmen for the labor movement as a whole were convinced that jobs of a far greater number of workers depend on exports of the United States than on imports. Although they recognized that some unemployment had already occurred and that more might result from lower tariffs, they contended that the small number of workers adversely affected should be assisted by special facilities. Representatives of labor felt that overall economic and political gains which workers derive from lower tariffs more than offset the slight loss of jobs.[31]

Pressure for modification of the AFL-CIO position on tariff legislation became heavy just prior to the 1959 convention of the organization. The ladies garment workers, men's clothing workers, textile workers,[32] hatters, and leather goods workers combined forces to exert pressure on the executive council of the AFL-CIO to qualify the support of the labor movement for the reciprocal trade program. The five unions were seeking enactment of a law to protect domestic production against the inroads of foreign sweatshops."[33] They argued that many foreign producers could sell goods in the United States only because they employed highly productive labor at substandard wages. The five unions also expressed fear that subsidized exports from Communist countries would soon become common. Hence, they contended that flexible or sliding-scale tariffs and import quotas should be imposed. Reuther, who opposed tariffs and other trade controls, wanted the AFL-CIO to hold an open hearing in which all unions might participate, but George Meany decided to assign several staff economists to meet with interested unions and report the results to the convention.[34]

The 1959 convention of the AFL-CIO, impelled by the pressure of some of its affiliates and fear of increasing unemployment, decided to retreat farther from its free trade principles. It unanimously approved a resolution calling for tariff provisions to protect the "absolute historic levels" of domestic production against the dumping practices of foreign countries.[35] At the present time, therefore, the policy of the AFL-CIO on the tariff is sufficiently vague and flexible to satisfy most member unions.

II

The conflicting pressures besetting the American Federation of Labor, as representative of consumers and unions favoring lower tariffs and as spokesman for unions seeking protection, did not affect individual labor organizations. The reaction of a union to the tariff issue depended to a large extent on the appraisal by its leaders of the relationship between tariffs, employment, and wages of labor. Historically, trade unions above all have tried to increase the wages and improve the working conditions of members.

A union's attitude towards the tariff frequently depends on the availability of import substitutes. The extent to which such commodities compete with domestic production may be used to predict the position leaders of the union will take on the tariff question. Since the volume of foreign trade for specific commodities varies over time, it is not surprising that attitudes of some unions also have changed.

But there have been occasions when labor leaders interested in politics, concerned with the fortunes of the labor movement in general, or imbued with the patriotic feelings prevailing during war periods, have given weight to factors not necessarily of immediate benefit to the members and unions they represent. Some heads of unions, elected by workers engaged in

[30] *Labor's Economic Review*, March 1958, pp. 22, 24.

[31] United States Senate, Committee on Finance, *Hearings: Trade Agreements Extension*, 84th Congress, 1st Session, 1955, p. 2290; United States House of Representatives, Committee on Ways and Means, *Hearings: Trade Agreements Extension, op. cit.*, 1955, p. 767; United States House of Representatives, Subcommittee of the Committee on Ways and Means, *Hearings: Administration and Operation of Customs and Tariff Laws and the Trade Agreements Program*, 84th Congress, 2nd Session, 1956, p. 917; United States House of Representatives, Committee on Ways and Means, *Hearings: Renewal of Trade Agreements Act*, 85th Congress, 2nd Session, 1958, pp. 295, 315.

[32] In 1938, the union of textile workers split. The larger section affiliated with the CIO as the Textile Workers Union of America and the smaller part rejoined the AFL as the United Textile Workers of America. As a result of the merger of the AFL and the CIO in 1955, both unions became members of the same federation. The union referred to above is the Textile Workers Union.

[33] *New York Times*, August 17, 1959, p. 1: 2-3.

[34] *Ibid.*, August 21, 1959, p. 46:1.

[35] *Ibid.*, September 22, 1959, p. 29:3.

the production of goods sold only in the domestic market, have not been under pressure to discuss the tariff.

Examination of the attitude of individual unions towards the tariff discloses a variety of behavior patterns. One group of unions includes those that consistently have favored a policy of high tariffs on goods which their members fabricate. Some have given such support actively but others have been less emphatic. A second group generally has supported low tariffs. A third group consists of organizations that have shifted positions at least once. A fourth group comprises unions that have favored the imposition of tariffs on some commodities but have opposed levying duties on other goods. Finally, there are many international unions that have been indifferent to the tariff issue. Some have discussed the subject from a neutral position, but most have avoided it entirely.

The efforts of unions supporting higher tariffs were coordinated for more than a quarter of a century by Matthew Woll, president of the photoengravers union and one of the vice presidents of the AFL. In November 1928, he was instrumental in forming America's Wage Earners' Protective Conference.[36] At the time of its establishment, the Conference comprised seventeen of the 105 international unions and 250,000 of the 3,000,000 workers affiliated with the American Federation of Labor. The Conference has included the hatters, operative potters, flint glass workers, boot and shoe workers, photoengravers, wall paper crafts, wire weavers, pattern makers, glass bottle blowers, bookbinders, lithographers, upholsterers, cigar makers, brick and clay workers, painters and decorators, iron and steel workers, paper makers, bricklayers, and neckwear workers. By 1950, the number of members had declined to twelve.

The purpose of the organization was to bring about enactment of higher tariff schedules on specific products through collective action of unions which heretofore had acted individually. Although membership in the Conference was limited to affiliates of the AFL, there was no direct link between the two bodies. However, in many instances during the past three decades members of Congress and the public have assumed that the Wage Earner's Conference represented the AFL. The zealous work of the Conference, for example, gave rise to the belief that the whole labor movement favored the Hawley-Smoot Tariff Act of 1930. Officers and members of the Conference were never anxious to dispel the misunderstanding.

The international unions in the Conference contended that high tariffs were necessary to prevent imports made by cheap foreign labor from adversely affecting the jobs, employment opportunities, and wages of American workers. This policy, the unions felt, served to reinforce provisions in the immigration laws designed to keep cheap foreign labor out of the country. It also was expected to deter American firms from building plants abroad and producing goods to sell in the United States at prices low enough to capture much or all of the domestic market. Conference unions gave support to campaigns waged by manufacturers and their associations to "Buy-American."

Many labor leaders were not familiar with the Conference and its work and others were indifferent.[37] In some cases, union officers remained silent even when they strongly favored lower tariffs. An editorial in the journal of the men's clothing workers union stated that only considerations of "good-fellowship" kept labor leaders from speaking out against high tariffs. It said that many unions in the AFL did not share the views of the Conference but they were reluctant to criticize Woll.[38] Public awareness of this situation was lacking.

The intensified efforts by some manufacturing associations during the past fifteen years to eliminate the reciprocal trade program stimulated unions in America's Wage Earners' Protective Conference to more activity. In 1950, the National Labor-Management Council on Foreign Trade Policy was formed. It is a nonprofit organization representing both labor and management in more than a dozen industries. The director is a registered lobbyist who serves as spokesman for the protectionists.

Unions which have been most affected by the competition of imports have strongly favored high tariffs. These unions have maintained that domestic production and employment opportunities increase if foreign goods are shut out. Over a period of many years, officials of the pot-

[36] *Ibid.*, November 26, 1928, p. 27:1.

[37] American Federation of Labor, *op. cit.*, 1929, p. 376.

[38] *Advance*, June 20, 1930, p. 3.

ters and flint glass workers and, more recently, officers of the watch makers, hatters, and textile workers have testified that high tariffs are necessary to prevent declines in domestic production and employment. In no case, however, has governmental failure to take action had serious effects. Other unions consistently favoring higher tariffs include the cigar workers, bookbinders, pattern workers, and paper makers.

There is widespread agreement that an industry whose products or services are necessary for the defense of the nation, but which is unable to compete under conditions of free trade, should receive protection from the government. Trade unions have subscribed to this idea. Such, for example, has been the position of the watch makers union before several Congressional committees.[39] Some unions contend that every established industry is entitled to protection from destruction by foreign rivals.[40] Although tariffs may lead to market prices above domestic costs of production, unions seeking employment security almost invariably prefer them to subsidies. Subsidies, of course, would maintain domestic prices at international levels and clearly show the costs involved in protection.

Generally, unions favoring lower tariffs or free trade have been those whose members work in industries marketing a substantial volume of exports or operating with mass production techniques and technological processes not available to foreign competitors. Also, they have been unions whose members produce services or whose leaders have been concerned with more than simply the interests of the workers they represent. Some of these unions always have favored low tariffs and free trade, and others have done so with occasional exceptions.

Some union leaders qualified their support for lower tariffs or free trade by demanding that the trade agreements program should be instituted gradually, selectively, and reciprocally. They asserted that workers whose employment is adversely affected by governmental trade policy should be protected by a readjustment plan that underwrites economic losses and provides retraining when necessary. Finally, they thought that the program should emphasize and encourage the establishment of fair labor standards abroad. It is not always clear to those dealing with the problem of labor standards that lower United States tariffs tend to push up wage levels abroad because they raise foreign output and increase the demand for labor. There is still some support for the proposition that higher tariffs in the United States bring about higher wages in foreign countries.[41]

David J. McDonald of the steel workers was one of the first labor leaders to suggest modifications in the reciprocal trade program. In 1954, while serving as a presidential appointee on the Randall Commission on Foreign Economic Policy, he proposed that labor standards in international trade should be formulated to eliminate unfair competition. The Commission found the clearest cases of unfair competition to be those in which manufacturing workers were paid wages well under accepted standards in the exporting country and recommended that no tariff concessions should be granted in such instances.[42]

Considerable union sentiment for free trade was manifested during the late nineteenth and early twentieth centuries. Unions such as the seamen, mine workers, musicians, locomotive engineers, and locomotive firemen and enginemen maintained that though protective tariff schedules served to raise prices, employees did not receive higher wages. Instead, particularly in industries with monopolistic features, profits of manufacturers increased. Furthermore, all workers were forced to pay higher prices in their capacity of consumers. Unions also argued that the evidence did not show that tariffs induced high wages since industries receiving the most protection paid the lowest wage rates. Industries producing textiles, cigars, leather, and steel served to illustrate the coexistence of high tariffs and low wages. In the light of such experience, the railway conductors contended that demands for protection by the button industry should be rejected. The union felt that wages of

[39] United States Senate, Committee on Finance, *Hearings: 1945 Extension of the Reciprocal Trade Agreements Act*, revised, *op. cit.*, 1945, pp. 280–294; United States Senate, Committee on Finance, *Hearings on Trade Agreements Extension Act of 1951*, 82nd Congress, 1st Session, 1951, pp. 524–560.

[40] See *American Federationist*, October 1959, p. 23.

[41] See United States Senate, Committee on Finance, *Hearings: Trade Agreements Extension*, *op. cit.*, 1955, p. 1486.

[42] United States Commission on Foreign Economic Policy, *Report to the President and the Congress*, 1954, pp. 62–63.

button workers were so low that the industry should be destroyed by foreign competition.[43]

The idea that high tariffs and low wages frequently occur together was stressed by unions favoring free trade during the 1920's and 1930's. These unions included the railway clerks, teamsters, electrical workers, garment workers, and maintenance-of-way employees. The musicians were outspoken for strong restrictions on immigration, but they supported tariff reduction. In the decade of the 1940's, many unions approved the reciprocal trade agreements program to reduce tariffs. They included the machinists, boiler makers, blacksmiths, sheet metal workers, railway carmen, train dispatchers, railroad signalmen, and firemen.[44] The National Women's Trade Union League with a direct and affiliated membership of over a million was also among the group.[45] A number of CIO unions, whose members provide services which are a function of the volume of foreign trade, favored lower tariffs. These were the longshoremen, maritime workers, cooks, marine engineers, and communication workers.[46]

Over time the attitudes of some labor organizations towards the tariff have been modified. During the early years of its existence, the Knights of Labor was composed of a conglomeration of workers and therefore remained neutral on the question of protection. The grand master workman reported to the Knights that the national organization could not take a position on the tariff because that might cause dissension in the ranks, but suggested that the subject could be discussed safely in local assemblies.[47] As its power declined and representation narrowed, however, the Knights of Labor joined other unions in condemning protective tariffs as absurd and dangerous. It declared that such levies benefited industrial trusts, not workers. It even criticized one of its assemblies for supporting duties on glass.[48]

The railroad trainmen brotherhood, which generally has favored lower tariffs but occasionally has come out for increases in rates, once editorialized: ". . . every proposition is considered solely from the personal point of view and without regard for the interests of the other fellow."[49] Such sentiments led the railroad trainmen, along with other operating rail unions, to support demands by the coal miners for a tariff on residual oil. The union of mine, mill, and smelter workers unconditionally supported extension of the reciprocal trade law in 1945. The president of the union said: "I have never, in my experience, been able to find where a tariff protected the jobs."[50] But a decade later, citing heavy unemployment figures, the union asked Congress to levy higher tariffs on metals. Furthermore, it suggested that governmental policy to encourage higher wage standards abroad would be more readily achieved by imposing import quotas on all countries.[51] Other unions which generally favored free trade or low duties but which more recently supported moderate protection include the ladies garment workers and men's clothing workers.

The main argument for higher tariffs, first propounded by the protectionists about 1840, is based on the need to preserve living standards of American workers.[52] Unions allege that the importation of goods produced with pauper foreign labor tends to curtail or eliminate domestic production because low costs enable foreign producers to underprice American competitors. This view has been challenged by those who insist that a free trade economy is able to main-

[43] *Railway Conductor*, October 1893, p. 421.

[44] United States House of Representatives, Committee on Ways and Means, *Hearings: Extension of Reciprocal Trade Agreements Act*, *op. cit.*, 1940, p. 2469.

[45] *Ibid.*, p. 2210.

[46] United States Senate, Committee on Finance, *Hearings: 1945 Extension of the Reciprocal Trade Agreements Act*, revised, *op. cit.*, 1945, p. 372.

[47] Knights of Labor, *Report of the Grand Master Workman*, 1890, pp. 2–3; *Journal of United Labor*, November 1, 1888, p. 1.

[48] *Journal of the Knights of Labor*, September 1903, p. 4; November 1902, p. 5.

[49] *Railroad Trainmen's Journal*, January 1906, p. 87.

[50] United States Senate, Committee on Finance, *Hearings: 1945 Extension of the Reciprocal Trade Agreements Act*, revised, *op. cit.*, 1945, p. 533.

[51] United States House of Representatives, Committee on Ways and Means, *Hearings: Renewal of Trade Agreements Act*, *op. cit.*, 1958, pp. 2351–2366; United States House of Representatives, Committee on Ways and Means, *Hearings: Lead and Zinc*, 85th Congress, 1st Session, 1957, pp. 218–231.

[52] See Frank W. Taussig, *The Tariff History of the United States* (New York: G. P. Putnam's Sons, 1931), pp. 65–67, 366–367.

tain wages above levels prevailing in protected countries and tariffs are not necessary to keep wages high.[53]

The conclusion by unions that lower tariffs exert a downward pressure on wages is warranted. However, the explanation that wages fall because increased imports force down the prices of goods produced in the domestic market is incomplete. Actually, lower tariffs reduce the demand for labor when they increase imports and diminish domestic output. The change in demand is primarily responsible for pushing wages down.

The textile workers have altered their views on the tariff many times during the past half century. They are among the lowest paid manufacturing employees and occasionally consider their plight to stem from foreign competition. The two textile unions affiliated with the AFL-CIO do not agree on the correct policy for the industry.

Before the 1930's, the textile union generally felt that workers should be protected from cheap foreign labor but did not know what to propose as appropriate tariff policy. The union realized that wages were low despite tariffs and higher productivity of American textile workers.[54] Furthermore, exports of cotton cloth were considerably greater than imports. Near the end of the 1930's, the union favored higher tariffs on foreign textiles that could be brought in at prices below the domestic cost of production, although it recognized that consumers would have to pay more.

Two unions of textile workers have been in existence during the past two decades. The United Textile Workers[55] favored a low tariff policy in the 1940's and 1950's, though the industry suffered substantial production declines during this period. At the AFL convention of 1948, when the first signs of labor's dissatisfaction with reciprocal trade agreements were evident, leaders of the United Textile Workers were among the delegates giving the program unqualified approval.[56] They contended that problems of the textile industry are not primarily due to imports. As recently as 1958, the research director of the AFL-CIO agreed with this proposition.[57]

The Textile Workers Union,[58] however, supported the reciprocal trade program for a time during the postwar period, but reversed its position in the mid-1950's. It set out to bring about higher tariffs in the textile industry and convince the AFL-CIO to modify its liberal trade policy. Solomon Barkin represented the union before Congressional committees. He pointed out that foreign textile operations are now highly efficient and unit labor costs abroad are much lower than those in the United States. In addition, he declared that foreign workers engaged in manufacturing textiles for export are employed under labor standards that frequently are above prevalent local averages. Barkin suggested that the volume of imports should be maintained at a specified fraction of domestic production and controlled by direct quotas or sliding scales of duties. He proposed that a policy of free trade should apply to the marketing of all new products.[59] As already indicated, the AFL-CIO position on tariffs moved in this direction at the 1959 convention.

Unions frequently compare hourly wage rates in the United States and abroad in order to show

[53] *Typographical Journal*, August 1, 1896, p. 107. The argument presented is that wage levels in Great Britain, trading under a policy of free trade, are higher than those in European and Asiatic countries using protective tariffs; and that wage rates vary among the states of the United Stated despite the prevalence of free trade in domestic commerce.

[54] *Textile Worker*, January 1926, p. 589; December 1928, p. 521; September 1929, pp. 332–333.

[55] See footnote 31.

[56] American Federation of Labor, *op. cit.*, 1948, pp. 239, 451.

[57] United States House of Representatives, Committee on Ways and Means, *Hearings: Renewal of Trade Agreements Act., op. cit.*, 1958, p. 317.

[58] See footnote 31.

[59] United States House of Representatives, Subcommittee of the Committee on Ways and Means, *Hearings: Administration and Operation of Customs and Tariff Laws and the Trade Agreements Program, op. cit.*, 1956, pp. 738–753; United States House of Representatives, Subcommittee on Foreign Trade Policy of the Committee on Ways and Means, *Hearings: Foreign Trade Policy*, 85th Congress, 1st Session, 1957, pp. 546–553, 633–641; United States House of Representatives, Committee on Ways and Means, *Hearings: Renewal of Trade Agreements Act, op. cit.*, 1958, pp. 758–786. In effect, Barkin reversed the infant industry argument. He recommended a policy of free trade for new manufactures and protection for goods already on the market unable to meet foreign competition.

that foreign costs of production are lower.[60] This procedure, of course, is misleading for it is labor cost per unit of output which is indicative of the relative cost of production. Therefore, productivity of labor in relation to the hourly wage rate is much more decisive in determining whether foreign goods can undersell those produced in the United States. The state of technology in industry both here and abroad bears heavily on the degree of advantage derived by foreign producers from lower labor costs.

It is difficult to understand frequent proposals by unions that the tariff should be set at a rate which equalizes domestic and foreign costs of production.[61] Since the basis of trade rests on differences in costs, continual iteration of such recommendations by trade unions is comprehensible only if recognized as an effort to halt all imports. Other union proposals which fall in the same category include support of no-injury rules, peril-point provisions, and escape clauses.

The boot and shoe workers union has changed its position on the tariff. At the turn of the century when productivity of labor in the manufacture of shoes was high, the union asserted that the industry did not need protection. A decade later the volume of footwear imports rose and the union proposed that the government maintain a duty on shoes.[62] By 1930, the shoe workers organization was a leading member of America's Wage Earners' Protective Conference.

There are several cases where a union has demanded that high tariffs be imposed on products which its members fabricate but no tariffs be placed on the complementary raw materials used by the industry. For example, the boot and shoe workers requested that duties on hides be removed but that tariffs on shoes be raised. During one period, the textile union insisted that tariffs on textiles be increased but those on raw wool be dropped. It also contended on several occasions that tariff rates be determined by the extent of foreign trade; textile goods entering the United States in greater volume should be taxed more heavily.

It is rational to expect a union to fight for higher tariffs not only on goods produced by its members but also on substitute or rival goods. A tariff on a substitute good raises the price of that good and decreases the quantity demanded. The result is an increase in demand for the protected good. On the other hand, unions are expected to press for lower tariffs on complementary or cooperating commodities. Lower prices for the complements increase the quantity demanded and thereby also raise the demand for the commodities produced by the union member.

There are not many cases, however, where unions have attempted to secure imposition of higher duties on rival goods. The mine workers union always has favored high tariffs on fuel oil and residual oil, competitors of coal. The conductors, engineers, and firemen working for the railroad industry, a significant part of whose business involves the movement of coal, strongly supported the miners in hearings before Congress. But the mine workers union has been extremely reluctant to support a tariff on coal. At the convention held in 1909, the union did not want to commit itself on the tariff question in general, but decided to oppose a duty on coal. Twenty-one years later, when imports of coal were adversely affecting employment in the Pennsylvania anthracite mines, the union still felt that a tariff was undesirable. It feared that a levy on British coal might lead to retaliatory Canadian action and an even greater reduction in the number of jobs. Furthermore, the union recognized that large quantities of coal coming to United States shores as ballast would not be subject to tariff payments.[63]

Union pressure to place complementary commodities, other than raw materials, on the free list or reduce the tariff which they bear has been nonexistent. Nor have unions sought reduction of foreign tariffs on goods which their members produce. As the representative of the AFL-CIO stated, unions have not attempted to induce the governmental agency preparing the agenda for reciprocal trade negotiations to seek such concessions from foreign nations.[64]

[60] See United States Senate, Committee on Finance, *Hearings: Trade Agreements Extension*, *op. cit.*, 1955, p. 1480.

[61] This idea was expressed clearly for the first time in the Republican party campaign platform of 1908; see Frank W. Taussig, *op. cit.*, p. 363. It is now known as "scientific tariff."

[62] *Union Boot and Shoe Worker*, June 1902, pp. 9–10; *Shoe Workers' Journal*, November 1912, p. 9. The union, however, deliberately refrained from expressing itself on the desirability of tariffs generally.

[63] United Mine Workers of America, *Proceedings of the Convention*, 1930, pp. 528–531.

[64] United States House of Representatives, Subcommittee of the Committee on Ways and Means,

Labor organizations have adequate opportunity to participate in the tariff debate since they publish journals, hold conventions, and send representatives to testify at Congressional hearings. Many of them have not taken part in the tariff controversy and have been indifferent to the policies adopted by the government and the labor movement. Occasionally the lack of interest has been clearly expressed. For example, the Industrial Workers of the World, a union pledged to undermine and overthrow the economic system in the United States, declared that tariff matters have little if any significance.[65] In other cases, unions do not mention the subject of import duties. Sometimes they discuss the issues with complete detachment and reveal no preferences.[66] These unions often have organized workers in industries which have almost no economic stake in the outcome of tariff disputes. Furthermore, at least in part, unconcern has resulted from a lack of understanding by some union leaders of the issues involved in the tariff question.[67]

Study of the relation of organized labor to the tariff reveals that the labor movement as a whole has been neutral or has favored lower tariff walls. Most of the international and national unions, however, have not been interested in the tariff question and have taken no position. At all times, some unions have supported free trade and others have called for protection. Usually, those unions that demand higher tariffs have indicated their position with considerably greater emphasis and thereby have given the impression that their views are typical of those held by the entire labor movement.

Hearings: Administration and Operation of Customs and Tariff Laws and the Trade Agreements Program, *op. cit.*, 1956, p. 925.

[65] *Industrial Solidarity*, October 7, 1922, p. 3.

[66] See *Retail Clerks International Advocate*, February 1916, pp. 9–10; *Typographical Journal*, February 1916, pp. 162–163; September 1938, p. 260. In 1928, the typographical union asked the convention of the AFL to petition Congress to abolish the free list for Bibles and books printed in languages other than English; see American Federation of Labor, *op. cit.*, 1928, pp. 281–282.

[67] See, for example, United States Senate, Committee on Finance, *Hearings: 1945 Extension of the Reciprocal Trade Agreements Act*, revised, *op. cit.*, 1945, pp. 485–487.

THE WASTE MAKERS[1]

HARRY ELMER BARNES

Malibu, California

Some time ago I reviewed in this journal a book devoted to the economic theories of Thorstein Veblen.[2] The volume now under review constitutes a very readable popular source-book to illustrate the validity of Veblen's fundamental assumption of the basic conflict between the capitalistic theory of business enterprise and an efficiently planned economy under the direction of trained industrial engineers which Veblen envisaged, although he did not draw up any rigid blueprint for a technocratic society.

The author, Vance Packard, an expert on advertising methods, a well-informed journalist, and a very lucid and ingratiating writer, is the most widely read of a number of authors who have recently sought to show how the American purchasing public has been "taken" by the advertising fraternity and the sales group in our economy. This has been the result of a frenzied effort to stimulate consumption in an era in which the productive plant and labor force have become capable of producing needed and durable goods far more rapidly than the consumers can utilize them.

He first became well known in this field by his book on *The Hidden Persuaders*, which appeared in 1957, and which endeavored to indicate how the most recent advertising technique has turned to motivation studies, in the effort to stimulate and direct sales and purchases through the utilization of endocrinology, abnormal psychology, psychiatry, social science and public opinion research. This has moved on from exploiting mere eye and ear appeal to creating impulses and craving for goods which arise from the subconscious mind and endocrine glands.

Packard followed this by *The Status Seekers* which appeared the next year and stressed the relation between social stratification and the nature and extent of the demand for goods. It emphasized the impact of the desire not only to "keep up with the Joneses" but to keep ahead of them with respect to the diversification and extent of the demand for goods. It was a good popular study of the operation of what Veblen used to call "the sentiment of the invidious."

Both of these books were best sellers and did much to call attention to many of the actual operations of the theory of business enterprise and the "free market" in contemporary America. They also aroused the ire of many critics. The professional economists were highly sceptical of them because the author eschewed calculus and higher differential equations in stating his beliefs and conclusions. Those members of the advertising world and the marketing fraternity on whose toes Mr. Packard trod rather hard and sharply were much annoyed by his exposure of the wastes and deceptions involved. A prominent member of the Market, Attitude and Motivation Research Division of the Opinion Research Corporation in Princeton, New Jersey, contended that Mr. Packard's two books proved him to be no more than a "hack script-writer from soap opera" who sought to "turn sociology into a good Western with the author taken for Gary Cooper."

His third book, *The Waste Makers*, has sold more widely than either of the preceding books and has also come in for more bitter criticism by those directly affected, since it exposes more serious threats to the well-being of American society and the durability of the free-enterprise economy.

The reviewer regards the book as a major contribution to the description of our economy, as we have moved past the mid-century. It brings together in very readable fashion a large body of material, much of which reveals far more of a threat to the capitalist economy than all the machinations of the Communists here and abroad. It does this at a time when there is still an opportunity to curb or remedy the abuses which he so vividly describes. In this sense, it is an important summons to the needed revamping of much of the free-enterprise system if it is to survive not so much the plots of Reds as its own weaknesses and myopia. Unfortunately, those persons and groups most apprehensive con-

[1] This essay is a review article on the book, *The Waste Makers*, by Vance Packard. New York: David McKay Company, 1960. Pp. x, 340, $4.50.

[2] "A New Assessment of Veblenian Economics," *Southern Economic Journal*, July 1958, pp. 88–96.

cerning the threats of Communism are the very ones most allergic to the warnings contained in Mr. Packard's book, and most ardent in support of the Cold War.

The main argument of the book is that the present state of American technology is such that it is possible to produce all useful and needed goods without utilizing the total available productive plant and labor force for anything like all the working days of any year, at least in peace time. Hence, in order to insure anything approaching the full use of both plant and labor, it has seemed necessary to produce goods that wear out far more rapidly than need be in the light of technological skills, to create a frame of mind that leads to abandoning products before anything like full use had been made of them as a result of dictates of changing styles, novelty and status demands, and to induce the consuming public to demand far more goods of many kinds than it actually needs. All of these measures are facilitated and encouraged by easy credit schemes and installment buying, which not only promote inflationary trends but also threaten the stability of the financial system.

Mr. Packard finds that there have been a number of definite strategies worked out by business, advertising, and sales agencies in their effort to keep the purchasing of goods somewhere near in line with the volume that *could* be turned out by the existing plant and labor force.

One is the fact that there is always an opportunity to seek to convince potential customers that they need much more than they now possess or have been able to possess in the past, from two wedding rings to two or more cars or two or more houses. These greater wants need not always be numerical; they can be found in larger, more powerful and more expensive cars, power-lawnmowers to mow microscopic urban lawns, more elaborate kitchen equipment, and the like. Then, there is the "throwaway spirit" encompassing a wide range of materials from cheap wrist watches and packaged foods to refrigerating and heating devices which are discarded rather than being repaired while there is still a lot of good wear left in them.

Perhaps the most extensive and effective of all the strategies designed to stimulate consumption is what Packard calls "planned obsolesence." This covers a wide range of planning and products, but it all tends to converge on the technique of a pre-designed "death date" for the use of any given commodity, no matter how much "life" it may still have in it. The planned obsolesence of desirability, through arbitrary changes in the styles of clothing, hats and shoes is a commonplace and has been such for years.

Most conspicuous and costly in this strategic area has been what has happened in the automobile world since Henry Ford proclaimed that the purchaser could have any color of car he wished so long as it was black. The majority of automobiles in the post-War period have been turned in long before they have been worn out or faced probable repairs so extensive and expensive as to make a turn-in advisable. Drastic changes have constantly been made in such non-essential matters as ornamentation, design with little reference to beauty, size, unneeded power, and the like. To hurry the process along has gone a planned obsolence of quality (defective materials and workmanship) in car exteriors, upholstery, and minor but essential parts such as mufflers.

Automobiles are only one of many examples of this planned obsolence of desirability through style changes, planned defects in quality, and the like, but they have probably been the most expensive instance and the one with the greatest impact on the economy.

Planned obsolesence through inferior quality has resulted in what Packard calls "the repairman's paradise." Repairs become more frequent and the products have been so designed as to make repairs both more difficult and more expensive. This is notoriously the case with what Packard calls "the short, sweet life of home products," namely, washing machines, refrigerators, television sets, air conditioners, freezers, furniture, and the like.

Another method of stepping up sales with little reference to actual needs are "planned chaos" or special sales days and stunts, while making purchases and payments seem safe and easy through installment buying and credit cards of various kinds. Mr. Packard wrote too early to detail adequately the outstanding example of planned chaos in all economic history, that which has resulted from the multiplicity of sub-compact, compact, super-compact and standard cars that have spawned in the last year or so in the automobile industry and have involved even the planners in the chaos.

Psychological stimulation operates through encouraging "hedonism for the masses" and creating the conviction that one should buy

everything he or she wants while the waste-makers plan new baits and lures to increase the wants. A further trend or technique lies in exploiting the current irrational increase in the population by stressing its blessings in producing more and larger markets for children's needs, from clothes to toys, and the indoctrination of teen-agers to demand more, emphasizing the increasing ease with which they can obtain what they want through current credit hocus-pocus.

All of this material on the methods used to stimulate consumption to the point where supplying it will occupy the major portion of our physical plant and the labor force is reasonably well documented, and is enlivened by Mr. Packard's well known talents as an expositor and narrator, using vivid phraseology and cogent anecdotes. That there are some exaggerations and distortions is obvious but there is enough statistical verification to make it apparent that the picture as a whole is valid. Perhaps the main weakness is that not enough attention is given to the wastes created by planned loafing and featherbedding by unionized labor, although Mr. Packard does mention this matter clearly and expresses his sharp disapproval of such practices.

He seeks to draw the main conclusions and implications from the preceding data. The first is the assertion that there is a rapidly growing preoccupation with ever-mounting consumption. The second is the trend towards an ever greater commercialization of American life in motivation, activities and values. The third observation is the change in the character of the American people which all this is producing. This he believes to be the triumph of a selfish hedonism and a self-centered materialism that is replacing the idealism which made the United States what it was prior to the two World Wars. The fourth item is one which no informed person can deny: the alarmingly rapid and partly unnecessary exploitation and exhaustion of our natural resources, especially in the fields of minerals, lumber and oil.

The author suggests a number of possible solutions for the disturbing situation he describes in his book. One is introducing more of the consumer's point of view and social well-being into the ordering of the economy, and the termination of the hegemony of the sales psychosis and the hysteria about increasing consumption, at all costs. Another is the education of the public in an attitude of prudence and thrift rather than uncontrolled ecstacy and undisciplined élan in purchasing materials, giving more consideration to actual need. A third would be the development of pride in quality in both production and possession rather than the current obsession with quantity on the part of both the producer and the consumer. It might also be helpful to develop a greater degree of balance in American life and values, with less stress on purely material possessions.

Most important of all is the suggestion that he derives from Professor Alvin H. Hansen of Harvard to the effect that, in the future, with the ever more efficient technology which we shall possess, main stress should be laid on welfare expenditures and on the provision of interests and facilities for leisure-time activities. This is a fundamental point, and by no means novel with either Hansen or Packard, but to bring about such a situation effectively would require changes in personal motivation, economic organization and ethical values which neither Hansen nor Packard would care to carry through to their logical conclusion in analysis and description.

What are the appraisals and conclusions which the reviewer would draw from Mr. Packard's sincere and stimulating book? Since the issues he raises involve a large sector if not the whole pattern of American economic, social and moral life, to do justice to them would require as much space as the book itself.

Even a harsh critic, if honest and public-spirited, would have to be grateful for the book because it has revealed to millions of readers the seamy side of the current economy which will have to be dealt with in the interest of providing no more than stability for the capitalist system. The longer the undeniable facts in Mr. Packard's exposure are ridiculed, ignored, or both, the more serious the crisis will become and the greater the difficulty in setting matters straight.

Discretion, of course, prevents Mr. Packard from describing what is by far the greatest waste in the world today, namely, the Cold War and armament expenditures, especially the hysterical obsession with space exploration. These waste far more productive effort and natural resources than all the unwise operations on the domestic front, but the solution of this problem requires international statecraft of a scope far transcending economic considerations.

In one reflective section of the book, Mr. Packard suggests that we must take steps to prevent technology from "running away" with us. Technology is not running away with us and never can. It is always the servant of the prevailing economic and social policy which, if Mr. Packard's strictures are valid, has currently run away with technology and prevented it from serving society most efficiently and rationally.

In connection with this, one may correct another misconception of Mr. Packard, based on his approving citation of a quotation to the effect that we are "suffering from a surplus of happiness." There can never be any surplus of true happiness. This is the only valid goal of sound social policy and is the essence of the "good life." We may be suffering from a surplus of unneeded goods and the responsibilities and worries that go with them, such as growing indebtedness, the problem of meeting installment payments, and the like, but there is no reason to believe that a surplus of goods always means any surplus of happiness. It surely produces the opposite in many cases—a surplus of worries, discontents and frustrations.

An economy of abundance is the terrestrial paradise, assuming that the abundance is rationally determined, provided through good sense, discretion and prudence, and used in a sane and balanced manner. The first basic problem is to provide a good life through technical proficiency, thus giving us the extensive leisure which contemporary technology can already assure and will force upon us increasingly in the future, if we do not give way to military and diplomatic idiocy. The most vital and necessary social planning of our day, and of the future, should be to indicate how to use leisure time so as to increase true happiness and prevent the greater leisure from spawning more crime and other symptoms of social degradation and pathology.

In short, Mr. Packard has given us a sardonically entertaining account of many defects in our present-day economy and has suggested rather casually some possible ways of remedying both superficial and basic shortcomings. But he has missed the boat with respect to offering any adequate and fundamental solutions of the situation, even though he may personally know pretty well what they would have to be.

He fails to indicate what would happen to an unplanned economy, remaining devoted to business enterprise and the profit system, if the goods produced were of the best possible quality, people bought only what they really needed, and used those they bought as long as they provided good service for the purpose for which they were purchased, even assuming that all this implies no reversion to monotony, drabness and loss of interest in beauty. The result might be as cataclysmic and disrupting as the cessation of the Cold War and militaristic industry. Virtues like prudence and thrift are commendable, but they are no adequate solution for the basic economic problems of this era. This calls for "a brave new world," whatever its nature.

THE ECONOMY AND POLITY OF ISRAEL

JOSEPH J. SPENGLER

Duke University

> In one moment I've seen what has hitherto been
> Enveloped in absolute mystery,
> And without extra charge I will give you at large
> A Lesson in Natural History.
>
> From "The Beaver's Lesson," in Lewis Carroll, *The Hunting of the Snark*.

An appropriately oriented review of a work dealing with the economy of Israel must take into account both the welfare index the Israeli seek to maximize and the conditions under which they seek to accomplish this chosen task.[1] For Israel's welfare index stresses values besides that of maximization of current or prospective income per capita, and roles of polity have become markedly intermixed with roles of economy. In consequence and because various conditions under which the Israeli carry on remain hard, their economy may still be described as overburdened, though per capita GNP increased by half in 1950–58. It may be asked furthermore, if, given the objectives sought and the physical and other hard-to-modify conditions constraining Israel's economy, the best possible use is being made of the resources and inputs at hand. Dr. Rubner's information-packed study is devoted largely to this last question.

NON-ORGANIZATIONAL BURDENS; SUBVENTIONS

As has been implied, Israel's burdens are of both organizational and non-organizational origin. The sources of the latter are various. The state of Israel came into being May 15, 1948, upon the termination of the British Mandate for Palestine and some 50 years after the dream of a modern Jewish State had first been given organized expression. But the birth of Israel, perhaps in keeping with its having been midwifed by two world wars, was greeted, not by peace, but by the onslaught of considerable Arab forces which continued a covert struggle already in process. These were defeated by the following spring; yet, a comparatively stable situation did not emerge until after the short but highly successful Sinai campaign opened in late October 1956. Even so, while this campaign's outcome served to dissipate the garrison-state atmosphere that had pervaded Israel, it could not free her of great concern about the integrity of her borders and the security of her external transfer relations. This concern in turn has made necessary considerable defense-oriented outlay (probably more than the reported 7.7 per cent of GNP in 1953–54, which is large for a small country but below the ratios found in large countries), thereby swelling the nation's unproductive burdens and affecting its resource-use patterns (e.g., the disposition of economic activities in space). Part of this outlay is chargeable to non-military accounts, however, in that some of the time spent in the armed forces is devoted to education and the cultural assimilation of immigrants of diverse origin.

In the past the major source of Israel's gross economic burden has often been her immigration policy—a finding suggested when Mr. Ben-Gurion observed (London *Economist*, May 30, 1953, pp. 605–06) that, where Israel is concerned, "there is no such science as economics," thus implying that miracles could be counted upon. In her Proclamation of Independence the state of Israel was declared to be "open to Jewish immigration and the ingathering of the exiles," and "the Jewish people throughout the Diaspora" were called upon "to join forces" with those in Israel "in immigration and construction" and "to fulfill the age-old longing for the redemption of Israel," a longing that draws stength from the Jews' enjoyment (in H. I. Shapiro's words) of "an unbroken continuity exceeded in length of time by only one other people."[2] Because of this policy immigration has played a major role in Israel's population growth, supplying about 70

[1] This review article is based largely on Alex Rubner, *The Economy of Israel* (New York: Frederick A. Praeger, 1960), pp. xxiii, 307, $5.75. Dr. Rubner, Economic Editor of Israel's leading daily, *Haaretz*, has served as Economic Adviser to the Ministry of Finance and on various governmental bodies.

[2] *The Jewish People* (Unesco), Paris, 1960, p. 10.

per cent of its increase in 1948–57 and introducing into Israel's population the cultural and physical heterogeneity characteristic of the world Jewish population. Immigration will continue to play a significant role, but this role, while subject to fluctuation, is destined to decline in importance.

Heavy immigration began in 1948. Between May of that year and the close of 1958, 922,000 Jews (of whom 688,000 had come by the close of 1951) settled in Israel and helped to raise the Jewish population from 650,000 to 1,810,000, while (abstracting from the departure of over 600,000 Arabs in 1947–48) the non-Jewish population was growing from around 120,000 to 222,000. At present Israel's population numbers some 2.1 million, of whom about one-tenth are non-Jewish; in 1958 this category included about 153,000 Moslems, 47,000 Christians, and 21,000 Druze. Whereas, prior to 1948, 87.8 and 9.5 per cent, respectively, of Jewish immigrants came from Europe and Asia, in 1948–58, 44.6 per cent came from Europe (mostly central and eastern Europe), 29.6 per cent from Asia, and 24.9 per cent from (mostly northern) Africa. At the close of 1957 only about 14.6 per cent of the world Jewish population (numbering about 12 millions after having been reduced from about 16.7 to about 11.1 millions in 1940–45) lived in Israel, of whom about one-third had been born there. But since only about 12 per cent of the Diaspora Jews outside Israel now live in areas whence they might desire to emigrate (i.e., central and eastern Europe, the Balkans, Asia, and Africa) to Israel and also be free to do so (at least occasionally), it is possible that "in the long run the main traditional reservoirs of Jewish immigration to Israel will dry up."[3]

The heavy influx of immigrants accentuated both investment problems and employment problems. (a) Most of those who came were penniless and had to be supported until they could be incorporated into the labor force or settled in agriculture where investment per wage earner averaged about $15,000 according to Rubner.[4] Assimilation of the immigrants into Israel has been complicated also by the diversity and often traditional character of their cultural backgrounds and sometimes also by their past unhappy experiences. The diversity accounts in part for the adoption by the newer immigrants of the cooperative settlement (moshav) with joint marketing and supply organs instead of the older communal, rural settlement (kibbutz) initiated in 1910.[5] (b) The income-producing capacity of investment in Israel was held down also in that

[3] See Roberto Bachi, "Trends of Population and Labour Force in Israel," in A. Bonne, ed., *The Challenge of Development*, Jerusalem, 1958, pp. 49–50. Jews are prohibited from emigrating from the Soviet Union where live about 20 per cent of the Diaspora Jews, and only a small but steady "trickle of immigration, prompted mainly by ideological motives" originates in Western Europe, America, and Oceania where live 68 per cent of the Diaspora Jews. See also Don Patinkin, *The Israel Economy: The First Decade*, in the Fourth Report, 1957 and 1958, of the Falk Project for Economic Research in Israel, Jerusalem, 1959, chap. 1. On the physical and cultural heterogeneity of the Jewish population see Bachi, *op. cit.*, pp. 57 ff., Shapiro, *op. cit.*, pp. 61–82.

[4] At a maximum the rehabilitation costs of immigrants in 1950–58 approximated 380 million 1952 Israeli pounds, or an amount nearly equal to the domestic dissaving estimated for 1950–58. See Patinkin, *op. cit.*, pp. 94, 102–03. This maximum is partially offset, however, by factors Patinkin describes in *ibid.*, pp. 103–105. The Settlement Department of the Jewish Agency invests some 30,000 Israeli pounds in each farm unit and the Government (Ministries of Labor and Agriculture) invests "an additional IL. 15,000 per farm unit in public works, such as regional water schemes, roads, forestry, etc." The farmer, after having received his allocation from the Agency over a 6–7 year period as he has become capable of utilizing his advances, begins repayment over a 30-year period, with interest at 3½ per cent from the time when he has received the whole of the IL. 30,000. See Agricultural Settlement Dept., Jewish Agency, *The Composite Rural Structure*, Jerusalem, 1960, pp. 31–33. The Government is not repaid. The farm unit is a family unit, the use of hired labor being disapproved as a rule. According to the Jerusalem Post (July 1, 1960) the Jewish Agency spent IL. 2,500,000 setting up 60 families at Kfar Ofer.

[5] See Unesco, *International Social Science Bulletin*, VIII, 1, 1956, the whole of which was devoted to "Cultural Assimilation and Tensions in Israel." The Department of Sociology of the Hebrew University, under the leadership of Professor S. N. Eistenstadt and his associates, is now completing studies of the absorption of immigrants from Africa and Asia, together with the circumstances that affect assimilation; these should add greatly to our knowledge of the assimilative process in general. Other institutions are carrying on complementary studies of the assimilative process. E.g., see the report of the Hadassah Medical School (of the Hebrew University) on *Changes in Food Habits in the Yemenite and Iraqi Communities in Israel*, Jerusalem, August, 1958. On the Moshav, see E. Labes, *Handbook of the Moshav* (Jewish Agency), Jerusalem, 1959.

relatively large amounts of investment undertaken on the behalf of immigrants were characterized by relatively low output-capital ratios. For example, dwellings have formed 41–48 per cent of Israel's fixed reproducible assets, or one-fourth to some three-fourths more than in many other countries, even though the capital-output ratio for dwelling capital is only about half that for non-dwelling capital.[6] (c) While Israel was able to absorb most of the immigrants into her labor force, she has not yet been able to absorb all. Unemployment has resulted, "serious in its extent, in its depth, and in its structural nature"; it has been concentrated among the newer immigrants from Asia and Africa, that is, among the less educated, the more illiterate, the less skilled, those who have benefitted least from the rise in national income. While shortage of cooperant agents has been partly responsible, so also have institutional factors which have kept the wages of unskilled workers above levels at which larger numbers could be employed and which may have accentuated other inflationary forces by measures designed to keep wage differentials relatively narrow.[7]

Even if the net rate of immigration should remain low, the rate of population growth would remain quite high, perhaps around 3.5 per cent per year, and past trends in population composition would likely persist. The annual rate of natural increase, though lower than in the early 1950's, remains in the neighborhood of 2.2 per cent. In the Jewish population in 1957 gross and net reproduction rates were 1.76 and 1.67. Fertility and natural increase are decidedly higher, however, among Oriental Jews (i.e., Jewish immigrants from Asia and Africa) and Moslems than among native-born Jews or those from Europe, America, etc., where net reproduction among the Jews has usually been near the replacement level, though it has sometimes fallen below. "Oriental women bear about twice as many children as European women. Among Europeans veteran women bear 2.5 children on the average and new immigrants 2.3; the corresponding means for Oriental women are 4–4.5 and about 5.5. . . . Native-born women are a group of composite origin and so their demographic patterns are generally between those of Orientals and of Europeans." There are differences also within each of these two categories of immigrants, attributable to differences in age at marriage and age-specific fertility and reflecting industrial and cultural differences associated with country of origin.[8] It is not yet clear whether overall fertility will fall, for while the tendency of Oriental fertility to decline with length of stay in Israel outweighs any tendency on the part of European fertility to rise, increase in the proportion of more fertile Orientals (together with their descendants) in the population could elevate overall fertility for a while. Overall Jewish gross reproduction has not been trending upward, however.

Inasmuch as death control has spread among the non-Jewish as well as among the Jewish population, mortality now approximating 7.7 per thousand in the former and 6.0 in the latter and overall life expectancy having risen from about

[6] These figures are based on a 1960 study, not then ready for publication, which Dr. A. L. Gaathon kindly supplied me. Patinkin's percentages for investment in dwellings are lower, ranging downward from 47.1 and 48.2 in 1950 and 1951 to 31.1 in 1958, but he finds them to be from 20 to over 100 per cent above comparable figures for various other countries. See *op. cit.*, pp. 82–83. Even so, Rubner reports persistence of the housing shortage, which he attributes in part to the manner in which construction activities are organized and housing is allocated. See *op. cit.*, pp. 70–73.

[7] The real wages of the unskilled have risen, though not quite as much as the wages of the skilled or the price of capital equipment, but still too much to permit fuller employment. See Patinkin, *op. cit.*, pp. 67–69, 117–121, 180–184. See also A. P. Lerner's essay in Brinkley Thomas, ed., *The Economics of International Migration*, London, 1958, pp. 52-62; J. R. Hicks, *Essays in World Economics*, London, 1959, pp. 96–102, on the inflationary impact of wage policies designed to narrow wage differentials as has been attempted in Israel. See Patinkin, *op. cit.*, pp. 180–182; Rubner, *op. cit.*, pp. 43–44; F. Zweig, *The Israeli Worker*, New York, 1959, pp. 21–23, 161–166; also Aharon Becker, "The Work of the General Federation of Labour in Israel" (i.e., the Histadrut), *International Labour Review*, LXXXI, 1960, pp. 442-448.

[8] K. R. Gabriel, *Nuptiality and Fertility in Israel*, The Hebrew University, Jerusalem, 1960, summary chapter, par. 8.3. An English summary is included, together with an English index to the tables and charts. The census of 1961 will assemble a large amount of demographic information relating to the population of Israel, a veritable demographer's laboratory, the analysis of which (if support is available to carry it out) will reveal much of general as well as of specific concern. Total fertility and gross reproduction, by continent of origin, and natural increase in the Jewish and the non-Jewish populations are given in the annual *Statistical Abstract of Israel*.

54 in 1926 to 71 in 1958, natural increase varies with ethnic group in about the same measure as do fertility and natality. Natural increase approximates 2 per cent among the Jews and close to 4 per cent among the non-Jews (mostly Arabs); gross reproduction is about twice as high among Oriental as among other Jews. The rate of increase thus is highest among those elements in the population among whom aspirations for secondary education and more exacting occupation are relatively less pronounced. This means that the tendency of the aspirations to rise will diminish, even though secondary education is made more accessible.[9] Yet, as is suggested below, the future of Israel depends very much upon the extent and nature of the educational attainments and technical skills of its population.

Whatever expenditures the requirements of defense and settlement impose on the Israeli economy, their burden is accentuated by not easily modified disabilities under which this economy operates. Israel is small in size, suboptimal in her spatial configuration, poor in resources and top-quality land, and surrounded by unfriendly neighbors several of whom are avowedly and in effect hostile. Israel embraces only 8,000 square miles of area (of which 172 are under water), but has a boundary 748 miles in length (590 by land and 123 along the Mediterranean and Red Seas), or about twice as much as it would have if it were square-shaped. She lacks coal deposits, but may prove to have considerable oil. She has limited deposits of some minerals (e.g., iron, copper, manganese, gypsum, barute, and felspar), but is presently marketing others (potash, phosphate, kaolin, glass sand, and bromine) commercially. She has a climate favorable to citriculture. She lacks sufficient water (at least until desalinization of sea water becomes economically feasible) to irrigate more than one-half, if that much, of her (roughly) 1.4 million acres (outside the southern Negev) considered suitable for irrigation.[10] Her labor force, numbering only of which 1,550 MCM are already in use, there will some 700,000, is too small to realize widespread economies of scale; resource-poor Switzerland, with a labor force 2½ times as large as Israel's, overcomes her handicaps only by dint of hard work, efficiency, heavy investment, and great reliance on exports.[11] Israel's trade with her neighbors is very small because of their unfriendliness; it would be small even if her neighbors were friendly, since their economies are not now very complementary to Israel's.[12] Her exports, amounting to about one-tenth of her net social product in comparison with Switzerland's one-fourth, is too low to give rise to many economies of scale, nor is Israel's internal market large enough to do so. The average size of her manufacturing establishments remains small, smaller even than those in Egypt and Turkey, though the relative amount of employment provided in larger plants is increasing.[13] Diseconomies con-

[9] On the high rates of return received on investment in education in an underdeveloped country see C. S. Shoup et al, *The Fiscal System of Venezuela*, Baltimore, 1959, pp. 406–409. See Patinkin, *op. cit.*, pp. 67–68, also pp. 75–76 on the greater importance of informal than of formal education in Israel in the 1950's.

[10] Israel's irrigable land is put at 5–5.5 million dunams (1 dunam = 0.247 acres), but since there are not more than 1,800 MCM (million cubic metres) available for safe, continuous utilization, be enough to irrigate only around 2.5 million dunams when the water resources are fully developed. See Ministry for Foreign Affairs, *Facts about Israel, 1959*, Jerusalem, 1959, pp. 86–87; Y. Prushansky, *Water Development* (Israel Today, No. 11), Jerusalem, 1960. A 1958 estimate puts the available water at only 1,700 MCM, of which no more than 1,300 could support irrigation. This estimate (Rubner, *op. cit.*, chap. 14) of 1,700 MCM is but one-half one of 3,450 MCM made in 1944; it makes impossible a proposal to water both northern lands near the the water sources and 1,500,000 dunams in the water-short Negev some 100 miles to the south (unless desalinization of sea water becomes feasible).

[11] E. A. G. Robinson, ed., *The Economic Consequences of the Size of Nations*, London, 1960, pp. xv–xvii, chap. 4, also pp. 356–357.

[12] Rubner reports a study of 1953 that put the annual cost to Israel of the Arab boycott at $25–30 million. "The real benefits likely to ensue from an end to the boycott are the possibilities of regional development of soil conservation, irrigation, anti-malaria and anti-locust schemes; tourist excursions to the *whole* of the Middle East would also again become feasible." *Op. cit.*, pp. 69–70, 243.

[13] Rubner, *op. cit.*, pp. 81–83; United Nations, *The Development of Manufacturing Industry in Egypt, Israel, and Turkey*, New York, 1958, pp. 36–37; Ruth Klinov-Malul, *Productivity of Labor and Machines in Israel's Cotton Spinning Mills* (Falk Project Research Paper 4), Jerusalem, 1958, pp. 6–8. See also the Jerusalem Post, *Economic Annual*, Jerusalem, 1960, pp. 41–42, where it is indicated that about 40 per cent of earners employed in Israel's industry are in enterprises employing more than 50 workers as compared with only 23 per cent in 1952.

sequent upon smallness remain, and these in turn make it difficult to augment productivity per worker as rapidly as expectations, wage demands, and money wages rise in Israel, with the result that money costs and prices tend to be high.[14]

Over against these burdens may be set several offsets, at least the first of which had its origin in large part in the desire of the Jews in various parts of the world to help their fellows in Israel. (1) Assistance from abroad, most of it unrequited, served to increase Israel's stock of fixed reproductive assets by about 250 per cent in 1950–59 and the per capita amount of such assets by about 100 per cent, since domestic savings have been negligible or negative. This increase in assets may have been responsible for perhaps as much as one-fourth of the growth of NNP in 1950–59, an increase approximating 12 per cent per year, with increase in labor input responsible for perhaps 45 per cent of this growth.[15] (2) If something like 70 per cent, or less, of the increase in NNP in 1950–59 is attributable to increase in inputs of labor and fixed capital, the balance, 30 or more per cent, is largely attributable to increases in efficiency. It is probably because of the high rate at which industrial capital per worker grew in 1950–59 (about 128 per cent, ranging from 93 per cent in agriculture to 178 per cent in industry), together with improvements in efficiency of resource-use, that the bad effects of uneconomic allocation of resources were swamped.

REMEDIABLE CONSTRAINTS

Output in Israel would have risen faster had internal capital formation been greater, had private enterprise had more encouragement, had there been more competition and price flexibility, and had the labor force and other resources been better distributed among uses. The constraints referred to have been variously relaxed, however, in part because of continuing criticism and unfortunate experience, and they will probably be relaxed in greater measure as Israel's economy becomes increasingly exposed to world competition.

(1) As has been implied, domestic savings in Israel have been negligible or negative, because of a strong tendency (fed by egalitarian ideology and wage policy) to increase per capita consumption and avert reduction in the size of the import surplus. According to Rubner, of the $3.3 billion of goods and services gotten from abroad in 1948–58, $2,350–2,550 million consisted in charity and political aid; only $300–400 million were paid for with proceeds from visible and invisible exports. Israel was forming no capital since her import surplus, amounting to one-fifth of her "total available resources" (i.e., GNP plus import surplus) exceeded her net investment, and as late as 1958 her foreign currency budget was requiring "an annual subsidy of about $300–350 million." [16]

(2) The world of incentives surrounding the entrepreneur in Israel fell quite short of the ideal. Rubner states (p. 38, also p. 47) that "the political ideology of the Israeli socialist parties saw in the institution of wage labour. . . an evil of abysmal perversity";[17] that at the beginning restrictions upon private enterprise discouraged foreign entrepreneurs (p. 20); that "shabby treatment" caused the departure of thousands of Jews "who could perform professional, managerial and entrepreneurial functions"; that entrepreneurs are too dependent on governmental favors (pp. 81–83); that use of entirely too large a fraction of the nation's "total resources" was governed by decisions made by the Government, the Histadrut, and the

[14] Klinov-Malul, *op. cit.*, pp. 8–10, 37–43; Patinkin, *op. cit.*, pp. 118–121.

[15] I have based the increase in capital on Dr. Gaathon's estimates. The others are based on Patinkin, *op. cit.*, pp. 45, 52, 73–75. See also A. L. Gaathon, *The Estimate of Depreciation in Israel's National Accounts* (pamphlet), Jerusalem, 1960.

[16] Rubner, *op. cit.*, chap. 5. Patinkin's figures differ slightly but tell much the same story. See *op. cit.*, pp. 45, 52, 93–94. He indicates that domestic dissavings might have been as high as 7.5 per cent of GNP for the entire period 1950–58. *Ibid.*, p. 93.

[17] Israeli socialism is a unique but changing amalgam which evolved out of Marxist socialism and into cooperative socialism "and now is in danger of turning into Charity Socialism," which "means that everyone, every establishment, every institution, plants and weeds alike, have a right to live." See Zweig, *op. cit.*, p. 293. (One might call this Jainist socialism.) The original glamour, zeal, flavor, and beauty of Israeli Socialism have been lost. Even so, because of its humanitarian emphasis, its preference for a Histadrut type of organization to one dominated by the state, and its not yet wholly relinquished tendency to idealize the man of brawn and his work and to depreciate the man of brain and his work (so crucial to economic development) and underpay it, Israeli socialism remains an important force. See *ibid.*, pp. 273–293 on socialism and 238–272 on the Histadrut; also M. L. Plunkett, "The Histadrut: The General Federation of Jewish Labor in Israel," *Industrial and Labour Relations Review*, XI, 1958, pp. 155–182.

Jewish Agency;[18] that little scope was allowed private enterprise in agriculture (pp. 100–102); that for ideological reasons the interest rate was not freed of regulation (pp. 89–90, 253); etc.[19]

(3) Because of constraints put upon the working of the price system, Israel's economy has functioned less effectively than it otherwise might have done, and inputs have been inappropriately allocated. These constraints had a four-fold origin, in exchange controls flowing out of balance-of-payment problems, in price controls flowing out of the efforts to combat persisting inflation, in a wage policy dominated in part by idoelogical considerations, and in the extent to which economic decisions were made outside the purely private sector. (a) A system of not very enforceable exchange controls, eventually in the form of multiple rates, made for waste of foreign-exchange resources and for misuse of Israel's internal productive prowers; it conferred windfall gains and differential profits upon favored importers and exporters; it provided most of Israel's entrepreneurs with a large measure of protection and yet discouraged some economically desirable forms of domestic production; it made diverse export subsidies necessary, with the result that many subsidized exports (besides essentially nonsubsidized citrus and diamonds which were responsible for about two-thirds of Israel's export earnings) were almost unrequited exports.[20] (b) Price controls employed to suppress inflation (which increased prices some 200 per cent in 1950–58)[21] also made for misuse of resources (chaps. 8, 9, 12) as did the interest rates and other conditions involved in the lending of funds (pp. 90–93). (c) Wages often were permitted to rise faster than productivity and thereby discourage exports whilst the Tozereth Haaretz protectionist policy walled out salutary foreign competition and hence made for rising prices and wages (chaps. 6, 20, pp. 213–214, 223–224).[22] (d) Had those in control of the "public" sector resisted suppression of the market mechanism, together with the distortions resulting, the efficient, regulative power of market forces would have dominated (pp. xvii–xviii, 221–224, 239–241).

(4) Israel's labor-force and industrial composition reflects the misallocation-producing influences discussed above. The percentage of the population of working age in the labor force is relatively low, in part because the number of partially or wholly unemployed is large and because so many are enrolled in the non-civilian labor force (p. 73). Of those employed the fraction engaged in manufacturing as well as that in agriculture and manufacturing combined is much below levels found in Western Europe while the relative number engaged in services (governmental and private) is much above levels encountered in Western Europe. This distribution is traceable in part to the fact that relatively high wages and a shortage of cooperant factors are restricting the expansion of some parts of the economy and because it is comparatively easy to enter service occupations in which capital requirements are low and rates of remuneration are more flexible.[23]

[18] According to Rubner, Mapai, Israel's socialist labor party, has long been the dominant force not only in the government but also in the Histadrut and in the Jewish Agency, the political executive of the World Zionist Organization. *Op. cit.*, pp. xv, 45–47. These three units, together with the municipalities, constitute the "public sector." *Ibid.*, pp. xviii, 29, 36, 38, 71–72, 82, 84, 94, 221–222. In 1953 20 per cent of NNP originated in Histadrut and cooperative enterprises, 25 per cent in government, and the balance in private business. However, a large fraction of private investment activity (70 per cent in 1954) is financed by the government. See Patinkin, *op. cit.*, pp. 65, 86–90. Rubin (*op. cit.*, p. 222) puts at only about 27 per pent the fraction of the national income generated in the purely private sector. On politics in Israel see Marver Bernstein, *The Politics of Israel*, Princeton, 1957.

[19] Until 1957 interest was regulated under Ottoman law. Because of the diverse origins of the legal authority operative in Israel when it became a state, codification of this authority and its adaptation to the needs of a modern state have been necessary. On this problem see Benjamin Akzin, "Codification in A New State," *American Journal of Comparative Law*, V, 1956, pp. 44–77. This study relates to Israel.

[20] Israel's exchange control system and her foreign trade are treated by Rubner, *op. cit.*, Part B and pp. 48–51, 225–229, 239–241, 254–284.

[21] Consumer prices, building costs, and investment prices rose 210, 379, and 455 per cent, respectively, in 1950–58. See *Annual Report* (1958) of Bank of Israel, Jerusalem, 1959, p. 61.

[22] Real daily earnings rose 4.4 per cent per year in 1950–58 and at least 4.7 per cent per year in 1953–58. See Patinkin, *op. cit.*, pp. 38–40, 119–121. GNP per capita increased 5.2 per cent per year in 1950–58, that is, at a rate higher than in most countries of the world. *Ibid.*, p. 70.

[23] In 1959 fixed reproducible assets per person (which may, however, constitute only half of all the assets employed per worker) approximated, in 1957, IL. 10,710 in agriculture, 6,953 in industry, 17, 391 in transport, and 1,530 in all other cate-

Since 1950, however, and particularly in recent years (e.g., 195–559) the labor force outside agriculture, industry, and transportation has grown somewhat less rapidly than has that in these other branches.

THE WAY OUT

Israel's main task consists in making the state economically viable. Accomplishment of this purpose entails bringing payments into balance, by developing Israel's internal productive powers and such potential comparative advantages as she may enjoy in the international field. Developing Israel's productive powers and potential advantages entails stepping up the rate of domestic capital formation, increasing the relative number of entrepreneurs, engineers, and persons with managerial skills, shunting these along with capital into the comparatively more expansible sectors of the economy, and allowing the price system at the very minimum a far larger measure of control over the pricing and use of resources, inputs, and final products than it has exercised in the past decade. It is essential also that the forces making for inflation in the past be held in check so that the level of prices will remain relatively stable even though the structure of prices and wages is undergoing the considerable modification required if optimum use is to be made of Israel's resources and these are to be increased.

Despite the need of Israel to make major economic adjustments, the future is quite promising. There is widespread awareness of the adjustments required and the measures indicated. Moreover, under the pressure of circumstances, salutary changes are taking place. It is recognized that the internal market is no longer a seller's market and that Israeli producers face strong competition at home and abroad. It is taken for granted that the stimulus of a regime of competition is required.[24] Greater effort than ever is being made to attract foreign industry and entrepreneurs, because with them come new capital, know-how, and ability to make money. In 1959 a law more favorable to foreign investment than that of 1950 (liberalized in 1955) was passed. The camapign for foreign investment has been made second in importance only "to the United Jewish Appeal and Development Bonds."[25]

The competitive pressure described, acting in combination with a shrinking inflow of goods and services, are affecting both managerial practice and policy relating to wages, salaries, and prices. Aware of the shortage of skilled labor and skilled managerial and administrative personnel, business and government leaders are taking various steps to increase the supply of each as well as that of persons with engineering and related competence. There is much emphasis upon improvement of personnel relations and methods of production which result in reduction of input per unit of output, upon improvements, that is, of the sort which have already added greatly to Israel's productivity.[26] There is pressure upon the govern-

gories. In 1955–59 *aggregate* and *per employed civilian* net stock of non-dwelling assets, respectively, increased annually as follows, by major industrial category: agriculture, 11.0 and 6.8 per cent; industry, 11.6 and 5.9; transport, 12.5 and 7.7; other, 16.7 and 12.8. These figures are based on Dr. Gaathon's preliminary estimates.

[24] "The protection of Israel products has hitherto been a matter of administrative control and banning competitive imports. The Ministry (of Commerce and Industry) had failed to exploit foreign competition as a stimulant of better domestic production and more effective domestic competition. . . . More and more, imports will depend on our ability to export, and exports, in turn, on our ability to rival imported goods in quality as well as price. . . . It is timely to shift from an embargo on competitive imports to measures designed to render Israel wares competitive on the world market." See *Israel Government Year Book 5720* (1959-60), Jerusalem, 1960, pp. 163–164. Recent liberalization policy covering three-quarters of all imports (including vital raw materials for the use of textiles, metal, chemical, wood, tanning, paper, and plastic industries) "has had its expected results, directing trade to normal channels, virtually putting an end to undesirable features to which control customarily gives rise, regulating supply of raw materials and enabling the manufacturer to plan production at long range. Prices, too, have gone down. A refreshing competition has invaded import as well as production, import is left in skilled and competent hands, vistas are opened to new immigrants and labour is rationally and productively shared between production and import specialists." Quality has risen, costs have gone down. *Ibid.*, pp. 169–170, also p. 173, where it is reported that the removal of "the last vestiges of food rationing led to a free home trade with spiraling competition, often unrestrained."

[25] *Ibid.*, p. 165.

[26] Patinkin, *op. cit.*, p. 75. A National Productivity Institute was set up in 1951 as a result of efforts on part of Histadrut seconded by the Government and the Manufacturers' Association, all of which were interested in increasing produc-

ment and upon Histadrut, both from potential foreign investors[27] and from professional and similarly situated people within Israel, to remove constraints upon entrepreneurs and others, to permit wider wage and salary differentials, to rationalize organizational and pay structures, to allow greater scope to initiative and effort, and to facilitate input allocation in keeping with true input price. This pressure may have a bearing also upon the role that Histadrut plays in the future.[28]

Of overwhelming concern, of course, is adjustment of the export-import gap and elevation of the rate of domestic capital formation. As has been noted, Israel's stock of capital has increased only because of a continuing and heavy import surplus made possible by currently unilateral payments. This surplus averaged $341 million per year in 1956–58, largely because of unilateral German payments of some $120 million per year. These payments will terminate shortly, other sources of funds may constrict somewhat, and service charges on outstanding bonds may reduce the net inflow consequent upon further bond sales. The import surplus could fall to or below $200 million, and with it the gross volume of imports, unless exports and tourism expand. As a result the rate at which Israel's stock of capital grows could decline markedly, and with it the rate of growth of national income, and this decline might bring other adverse effects in its wake. This outcome might be averted if the internal rate of capital formation rose sufficiently, say to a rate of 11–15 per cent of national income which would about suffice to offset an expected rate of population growth of about 3.5 per cent per year and permit the reduced import surplus to increase capital per head. Accomplishment of this rate of saving would entail a marked decrease in the rate of growth of per capita consumption (which increased 46 per cent in 1940–48) for 5–10 years and a great increase in personal savings as well as in government and corporate savings.[29]

It is not easy to reduce the import surplus and yet sustain the old inflow of imports, though it was cut from 334 to 304 million dollars between 1958 and 1959, and cuts of $25–30 million per year apparently are anticipated. The import content of that which Israel uses or exports approximates 22–23 per cent, with exports and gross investment responsible for nearly half of Israel's imports. This suggests that while expansion of tourism, together with the substitution of domestic for foreign products and of domestic for foreign capital goods, will prove helpful, the impact of expansion of exports will depend upon what is exported.[30] Here the room for maneuver

tivity and in curbing inflation. See Becker, *op. cit.*, pp. 451–453; H. Fish, "Raising Productivity in Israel," *International Labour Review*, LXVIII, 1953, pp. 375–392. According to Becker, output per worker rose 142 per cent in agriculture and 88 per cent in industry in 1949–59. Persons taking courses under the Institute's auspices increased from 670 in 1953 to 3,734 in 1959. See *Israel Government Year Book* (1959–60), p. 366.

[27] H. S. Kahn, an American banker writes as follows (*Economic Horizons*, XII, July, 1960, p. 6): "My own feeling is that this is not a socialistic government in the undesirable sense that many of us feel. However, I do think that labor has a dangerously large amount of power. To date, this has worked well and has probably been necessary in view of the tremendous task of getting the country started and providing both capital and direction. However, for the future some way must be found to limit many of these powers which are not proper for labor to hold in a well-developed economy and also which could spell disaster in the hands of people who are not completely dedicated to the national welfare." One gets a good impression of the great changes wrought in Israel in the past decade when one compares the 1960 Year Book issue of *Economic Horizons* (August-September, 1960) with *Investing in Israel*, issued by the Jewish Agency in 1948.

[28] Under the mandatory government, Histadrut was an *imperium in imperio*, performing many national functions, some but not all of which the state has taken over, with the result that there is difference in opinion respecting where some of Histadrut's functions should be lodged. At present Histadrut embraces some 40 national unions and most workers, performs welfare functions, and handles many economic activities (e.g., about three-quarters of farm production, two-fifths of building activity, and one-fifth of industrial output).

[29] In 1957–59, according to surveys of urban families presented in the annual reports of the Bank of Israel, average annual savings per family amounted to only 4–5 per cent of private disposable income; consumption absorbed 90 per cent, and of the balance about half (i.e., 5 per cent) was invested in durable consumer goods. These surveys appear in the *Bulletin* and the annual report of the bank.

[30] In 1958 the import content of private and public consumption, respectively, approximated 15.4 and 20.2 per cent; that of gross domestic investment and exports, respectively, 33.1 and 46 per cent. See Bank of Israel, *Annual Report*, 1958, p. 18. Figures for 1951 (among them 68 per cent for

is limited in the short run, since at present fruits (mostly citrus) and nuts make up about two-fifths, diamonds about one-fourth, and chemicals and drugs about one-twentieth of exports.

Presumably, Israel's future lies in industrial expansion, and above all in the expansion of industries making differentiated products somewhat insulated from competition, or products, the character of which can be changed rapidly. Should expansion be pursued along these lines, greater attention will have to be given to marketing functions. Israel is not likely to fare well in activities depending upon access to large markets, or in activities in which countries with economically cheap labor are engaged. Expansion in agriculture is limited because of the shortages of suitable land and water.[31] Expansion of agricultural exports (consisting largely of citrus and secondarily of off-season and superior quality products)[32] may encounter rising costs at home and intensified competition abroad as agricultural techniques improve in areas that supply products competitive with Israel's, especially in Europe. Available data suggest, moreover, that returns to capital and labor are higher outside agriculture than within it.[33] Of course, if entrepreneurs are allowed free rein under a regime of competition, it is highly probable that they will ferret out the most profitable lines of activity, since their business is money making. Then the types of activity, agricultural and non-agricultural, that can alleviate the import gap will tend to come to the fore.[34]

diamonds and textiles) are given by A. L. Gaathon, in his *Survey of Israel's Economy 1951* (Falk Research Project), Jerusalem, 1951, pp. 48, 55, 59–60. Possible pathways to a lower import surplus have been projected by Patinkin (*op. cit.*, chap. 5) and by the Research Department of the Bank of Israel.

[31] On the basis of land characteristics there are 5.5 million dunams that might be irrigated, of which about 4.6 could be cropped without irrigation, and about one million lack the rainfall to permit cropping without irrigation. These figures must be reduced about 10 per cent, however, to allow for roads, farmyards, and other noncrop uses. See *Israel Agriculture 1953-54* (published on behalf of the Ministry of Agriculture, Jerusalem, 1955, and written largely by Marion Clawson), pp. 3–5, chap. 3. In 1958–59, 4, 040 dunams were cultivated, of which 1,290 were irrigated. Jewish farming embraced 3,345 dunams, of which 1,264 were irrigated. The Jewish National Fund recently approved a plan to reclaim 625,000 acres in Galilee, Judea, and the southern Negev, at a cost of $250,000,000 over the next twenty years, and settle 100,000 families (about 500,000 people) on this land. See report by Irving Siegel, *New York Times*, February 26, 1961, Part A, p. 10. At present some 32,000 farm units remain underequipped.

[32] See the Jerusalem Post *Economic Annual* (1960) pp. 59–82.

[33] Data compiled by Dr. Gaathon indicate net products per unit of capital and per employed person, respectively, in 1958 to have been (in IL.) as follows: agriculture, 0.316 and 3,109; industry, 0.543 and 3,713; transportation, 0.257 and 4,147; and others, 2,766 and 3,657. The ratio of capital to net product in 1958 was as follows: agriculture, 3.16; industry, 1.84; transportation, 3.90; others, 0.36. After this review was written, Dr. A. L. Gaathon's excellent *Capital Stock, Employment and Output in Israel, 1950-1959* (Jerusalem: Bank of Israel, 1961), was published.

[34] Two conditions make it likely that Israel, though destined to remain small (3–5 millions), will evolve a many-product rather than a few-product economy and hence one especially suited to development under private enterprise: (a) on the supply side many constraints and vulnerability to diminishing returns loom; (b) on the demand side products, when highly differentiated, are likely to encounter declining elasticities of demand.

TOWARDS A NEW ENERGY PATTERN IN EUROPE

LESLIE E. GRAYSON

College of the City of New York

I. INTRODUCTION

In the postwar years economists developed an interest in forecasting energy requirements which received particular attention in Western Europe. In the spring of 1960, a most comprehensive study was added to the already numerous forecasts of the European energy situation.[1] This article reviews this latest study, and also contrasts it with an earlier comprehensive report on the same subject.[2]

The reasons for the recent interest in energy forecasts are many, but the most important ones are the concern over the sizeable capital investments in the energy industries and the magnitude of energy imports in the balance of payment of the Western European countries. Most importantly, however, the availability and price of energy largely influence the standard of living and productivity of all countries, including, of course, those of the OEEC.

Before reviewing recent OEEC studies on energy forecasts, a brief account of the pre-World War II energy situation is warranted.

Prior to World War II, total energy consumption in the OEEC area increased very slowly.[3] In the twelve years between 1927 and 1939, this increase was less than 0.5% per annum. The growth rates in the postwar years, however, have shown a much more rapid rise. From 1948–1952, total energy consumption increased 5.4% per annum, and while this growth rate slowed down, between 1953 and 1958, to about 4.0% annually, it still represented an increase of considerable magnitude.

The supply pattern in the prewar and early postwar years was also different for the European energy industry from what it is today. In 1929, solid fuels contributed 92% of all energy consumed in Western Europe, with hydroelectricity and petroleum supplying 4% each. By 1937, solid fuels supplied 87% of all energy, hydroelectricity 6%, and petroleum 7%. The situation changed even more dramatically in the postwar years. In 1948, solid fuels contributed 80%, hydroelectricity 6%, and petroleum 10%; by 1958 the contribution of solid fuels had decreased to 62%, hydroelectricity accounted for 9%, and petroleum for 25% of the total energy supply.

II. THE HARTLEY REPORT

The best known of the energy studies for the OEEC area was prepared by the OEEC under the chairmanship of Sir Harold Hartley in 1956.[4] The Hartley Commission prepared forecasts for 1960 and 1975.[5] On the basis of the forecasts prepared, the Hartley Commission reached the following policy conclusions for the OEEC member countries:[6]

1) In the future, increased energy imports may present serious balance of payments problems, in particular concerning the member countries' dollar reserves.

2) The rising energy gap will mean an increasing dependence on outside supplies by Western Europe, particularly on the Middle East.

3) The further development of indigenous sources of energy was recommended, particularly that of coal and nuclear power.

III. THE ROBINSON REPORT

In 1960 the OEEC published a new energy study which supersedes the Hartley report. The revision was the work of the OEEC Energy Advisory Commission under Professor Austin Robinson of Cambridge University. It would be difficult to find two other reports (besides Hartley and Robinson) on the same question, written

[1] OEEC, *Towards a New Energy Pattern in Europe*, OEEC, Paris, 1960 (Robinson report), pp. 125, $1.50.

[2] OEEC, *Europe's Growing Needs of Energy; How Can They Be Met?*, OEEC, Paris, 1956 (Hartley report).

[3] *OEEC, Industrial Statistics, 1900–1955*, OEEC, Paris, 1955, pp. 26–27.

[4] For an early study see OEEC, *Some Aspects of the European Energy Problem*, OEEC, Paris, July 1955.

[5] See also Harold Lubell's Review of the Report, *Econometrica*, January 1960, pp. 146–148.

[6] The Hartley Report, pp. 24–25.

within four years of each other, which come to more differing conclusions. After discussing the results of their forecasts, we shall examine the reasons for these differences in the conclusions of the Hartley and Robinson reports.

Their approaches towards the forecasting were very similar and the Robinson Commission followed Hartley in its methodology. Both studies were based on projections of the growth of Gross National Product and/or industrial production in the OEEC area and the relationship between economic growth and energy input. This latter concept is generally referred to as the income elasticity of energy. As a second step in projecting energy demand in a forward year, a so-called energy balance sheet was drawn up. This balance sheet describes the difference between anticipated total demand and probable production of indigenous sources. These two sets of estimates gave the forecasters some idea of the requirements to be filled by imports from outside the area. At this point, certain judgments had to be made considering the substitution of one form of energy for another. In this consideration, the price of energy and its availability was an important factor. In addition to this aggregate analysis, projections were made for the major industries and the domestic sector. Finally, individual countries made forecasts of their requirements and these forecasts were consolidated by the OEEC Secretariat. A summary of the economic projection of the OEEC Secretariat is given below:

OEEC Secretariat's Estimates of Changes Relating To Western Europe's Energy Demand, 1955, 1965, and 1975[7]
(1955 = 100)

	1955	1965	1975
Gross National Product	100	136	183
Industrial Production	100	147	208
Primary Energy Demand	100	130	172

After arriving at the demand estimates, the Robinson Commission worked out projections of future supplies of individual energy sources. The Commission also estimated these supplies, separating the indigenous and the imported. The projections of the Robinson Commission for the OEEC countries in 1965 and 1975 are summarized in the following table:

OEEC Balance Sheets of Primary Energy, 1955, 1965 and 1975[8]
(Million Metric Tons of Coal Equivalent)[9]
Mean of Estimates

	1955	1965	1975
Estimates of total demand for primary energy	777	1010	1325
Potential indigenous supplies	603	690	850
Potential imported supplies	174	320	475

On the basis of its estimates, the Robinson Commission reached the following policy conclusions, which are diametrically opposed to the ones reached by the Hartley Commission four years earlier.

1) The Robinson report hopes that national energy policies will be concerned with providing adequate supply of energy at the least expensive price, and that the consumer will be given a freedom of choice as to the type of fuel he wishes to use.

As far as the pricing of energy sources is concerned, the Robinson Commission believes that these prices should reflect the market conditions and costs of the individual types of energy. Any taxes which discriminate in favor of one energy source as against another, or taxes which discourage the use of energy in general, are deemed undesirable.

2) Required security of energy availabilities can best be obtained by a wide diversification of supplies. The Robinson Commission notes that new discoveries of oil in the Sahara, Libya, and West Africa are satisfying the demands of increased security. It finds little justification for the protection of indigenous production.

3) Meeting the foreign exchange requirements of increased energy imports within the next fifteen years is thought to be well within the capabilities of the member countries of the OEEC. This is due to the improved gold and dollar holdings of these countries, the area's

[7] Robinson report, Table 7, p. 26.

[8] Robinson report, Table 31, p. 59. (Adjusted and summarized.)

[9] For conversion factors of sources of energy into coal equivalents, see United Nations, *World Energy Supplies, 1955-58*, Series J., No. 3, New York, 1960, p. vii.

competitiveness in the world exports of manufactured goods, and the net income European oil companies receive from their overseas operations.

4) It is recognized that the demand for coal will grow slightly, if at all. Accordingly, the problems of the coal industry can be best met with rationalization of investment to increase productivity and the necessary relocation of the unemployed mining labor force into other lines of employment. In order to encourage coal consumption a more flexible pricing of coal is thought to be advisable.

5) The Commission points out that neither in operating cost nor in investment outlay can nuclear energy compete with conventional methods of power generation over the next ten years.

IV. COMPARISON OF ROBINSON AND HARTLEY REPORTS

The mean estimate of the annual growth rate of energy demand between 1955 and 1975 is 2.7% for Robinson and 2.5% for Hartley. The resulting totals for the two estimates are thus substantially identical, though Robinson's mean forecast is 5% higher than Hartley's for 1975.[10] There is a considerable difference, however, in the pattern of fuel demanded, between the two estimates. In order to facilitate comparisons, the individual fuels are expressed as a per cent of the total.

SHARES OF POTENTIAL SUPPLIES OF ENERGY, OEEC
(In Per Cent of Total)

	1955	Robinson Commission 1975	Hartley Commission 1975
Solid Fuels	69	41	50
Oil	20	37	30
Natural Gas	1	7	2
Hydro-power	7	11	11
Nuclear Energy	—	4	7
Other	3	—	—
Total Energy	100	100	100

Most important is the considerably smaller share attributed to coal and the larger one attributed to oil in the Robinson report as against the Hartley report. Also significant is the upward revision of the natural gas estimates and the lower nuclear energy projections.[11] These shifts are the result of the changed competitiveness of the prices of different energy sources.

Both Robinson and Hartley were concerned with the share of energy that can be supplied indigenously and the share that has to be imported. In percent of total energy, here is the breakdown for the two estimates.

SHARE OF INDIGENOUS SUPPLIES AND IMPORTS, OEEC
(In Per Cent of Total)

	1955	Robinson Commission 1975	Hartley Commission 1975
Indigenous Supplies	78	64	68
Imported Supplies	22	36	32
Total Energy	100	100	100

Robinson forecasts higher import requirements in 1975 than Hartley does. Robinson expects that the difference will be accounted for fully by increased imports of oil and natural gas.

V. ECONOMIC POLICIES CONCERNING ENERGY IN THE OEEC

Hartley in 1956 was considerably alarmed by the growing "energy gap" in the OEEC area; he defined the gap as the difference between total demand and indigenous supplies. Hartley envisioned that the gap would create increasing balance of payments and security of supplies problems. In the face of this dilemma, he recommended the expansion of indigenous energy in general, and that of coal and nuclear power in particular.

Robinson, on the other hand, puts primary emphasis on the cost of energy and the consumer's freedom of choice. Since imported energy is generally less expensive in Western Europe than indigenous energy, Robinson is not at all apprehensive about the increasing share of imports. He views the ambitious coal and nuclear power expansion programs as mistakes.

[10] See Robinson report, Table 14, p. 31.

[11] For a discussion of nuclear energy projections in Euratom, see Foreign Policy Bulletin, October 1, 1959.

The reasons for these entirely different set of conclusions are twofold:

1) It is a difference in approach between a "scientist and administrator and a (temperately) liberal economist."[12] This seems to be a case where the judgment of the economist, interested in efficient use of the resources, and the administrator, more sensitive to political problems, clash. It is the tools of an economist, the concepts of price, cost, and consumer's choice, that Robinson uses in analyzing the OEEC energy situation.

2) More important, however, is that in the four years that elapsed between the writing of the two reports, the Western European energy market was transformed from one of a "gap" to that of large surpluses. The most noteworthy reasons for this transformation are the slowing down in the last two or three years of the high rate of growth of the postwar years in economic activity and energy consumption.[13] On the supply side, coal, between 1956 and 1960, became surplus, new natural gas fields in and close to Europe were developed, and, most importantly, new sources of petroleum were also discovered, and oil itself became available in ample supply.[14]

[12] *The Economist*, London, February 6, 1960, p. 529.

[13] For a good account of cyclical fluctuations' influence on energy demand, see G. Chandler & R. Priddle, "The Influence of Economic Fluctuations on the Demand for Energy," World Power Conference, Madrid, 1960.

[14] J. E. Hartshorn, "Fuel Strategy in Fragments," *The Banker*, London, July–August 1959, pp. 418–424.

VI. CONCLUSION

Both the Hartley and Robinson reports adopted very reasonable approaches to a very complicated problem. Yet, an economist's preference lies with the one Robinson undertook. He deals with the economic issues in terms of alternatives and measures their alternatives in terms of prices, production costs, and investment expenditures. Ultimately, even security of supply can be expressed in terms of cost alternatives.

This writer also feels that Robinson's judgment is correct in minimizing the balance of payments effect of energy imports. The OEEC countries have a comparative trade advantage in manufactured goods; they should be interested in inexpensive energy, export their manufactured goods, and import their energy "gap." Between 1956 and 1960, with high energy imports, the OEEC countries still managed to accumulate large gold and foreign exchange holdings and also make their currencies convertible.

One may censure mildly the Robinson report for not giving enough weight—though discussing it—to the political and social aspects of their recommended energy economic policies. The reduction of coal production creates unemployment in the mining labor force and the relocation of the miners is a serious problem. On balance, however, this report is so reasonably developed, and reflects the current situation in the energy market so truly, that it can be hoped that it will have a profound influence on the energy policies of the countries in the OEEC.

COMMUNICATIONS

MARKET CLASSIFICATION AGAIN

I. INTRODUCTION

R. W. Pfouts and C. E. Ferguson, in correctly pointing out a defect in my discussion of market classification, conclude that my suggested classificatory scheme is therefore invalid and, more generally, that "demand elasticities. . . . are not sufficient to establish a market classification."[1] I should like to offer a rebuttal, based on the generalizing of a helpful example that they employ.

The generalized example refers to a well-defined and symmetrical group of n firms that face linear demands for their differentiated products. Thus the demand for the ith and jth firms' products are, respectively:

$$q_i = a_{i1}p_1 + a_{i2}p_2 + \cdots + a_{in}p_n + b_i, \quad (1)$$

$$q_j = a_{j1}p_1 + a_{j2}p_2 + \cdots + a_{jn}p_n + b_j, \quad (2)$$

where the q's and p's are quantities and prices, respectively, the a's and b's are constants, and subscripts refer to firms. Throughout the whole group, in accordance with the symmetry assumption, $a_{ii} = a_{jj} < 0, a_{ij} = a_{ik} = a_{ji} > 0$, and $b_i = b_j > 0$.[2] Furthermore, in order that q_i not increase when all p's in the group are increased by equal amounts, it is necessary that:

$$a_{ii} + (n-1)a_{ij} \leq 0. \quad (3)$$

Still following the lead of Pfouts and Ferguson, I also assume that, in the market situation to be evaluated, $p_1 = p_2 = \cdots = p_n = 1$ and $q_1 = q_2 = \cdots = q_n = 1$, which implies that:

$$a_{ii} + (n-1)a_{ij} + b_i = 1. \quad (4)$$

This is expositionally convenient because it implies that all of the "own" and "cross" elasticities are, respectively:

$$E_{ii} = \frac{\partial q_i}{\partial p_i} \cdot \frac{p_i}{q_i} = a_{ii}, \quad (5)$$

and

$$E_{ji} = \frac{\partial q_j}{\partial p_i} \cdot \frac{p_i}{q_j} = a_{ji}. \quad (6)$$

This formulation involves no further loss of generality, since any symmetrical market situation with linear demands can be converted into this one with merely an appropriate selection of quantity and price units. Furthermore, my subsequent analysis can also be applied to any symmetrical situation involving smoothly continuous demands, since such curvilinear demands have the same point elasticities as the linear demands to which they are tangent.

Notice that E_{ii} is the elasticity of Chamberlin's dd' (the demand for the ith product when all other prices are held constant). By contrast, Chamberlin's DD' (the demand for the ith product when every p_j in the group is kept equal to p_i) is:[3]

$$q_i = [a_{ii} + (n-1)a_{ij}]p_i + b_i. \quad (7)$$

Hence, at the point where $p_i = 1$ and $q_i = 1$, this demand has the elasticity:

$$E_{ii}^* = a_{ii} + (n-1)a_{ij} = 1 - b_i. \quad (8)$$

The discussion that follows will refer to a series of specific cases based on the above equations. For convenience, those cases are summarized in Table I.

II. THE ELASTICITY RATIO AND NUMBERS

In my earlier article I represented the elasticity ratio $-E_{ii}/E_{ji}$ to be equal to the number

[1] R. W. Pfouts and C. E. Ferguson, "Market Classification Systems in Theory and Policy," *Southern Economic Journal*, October 1959, pp. 111–118, esp. pp. 114–115. My own article was "Elasticities, Cross-Elasticities, and Market Relationships," *American Economic Review*, December 1952, pp. 779–803.

[2] The demand functions in the form of equation (1) apply only when, for every price:

$$0 \leq p_i \leq \frac{a_{ij}\sum p_j + b_i}{-a_{ii}}.$$

The latter condition implies that $q_i \geq 0$. When p_i has a greater value, $q_i \equiv 0$; and, in the other demand functions such as equation (2), the term $a_{ji}p_i$ then has the value implied when p_i is just large enough to make $q_i = 0$.

[3] E. H. Chamberlin, *The Theory of Monopolistic Competition* (Cambridge: Harvard University Press, 1933), pp. 90–91.

TABLE I

Case	n	$a_{ii} = E_{ii}$	$a_{ji} = E_{ji}$	b_i	E_{ii}^*	(E_{ii}/E_{ji})	(E_{ii}^*/E_{ji})
A	3	−5	1	4	−3	5	3
B	3	−100	1	99	−98	100	98
C	101	−103	1	4	−3	103	3
D	3	−103	50	4	−3	2.06	.06
E	3	−20,003	10,000	4	−3	2.0003	.0003
F	101	−100,003	1,000	4	−3	100.003	.003
G	100,001	−100,000,003	1,000	4	−3	100,000.003	.003
H	100,001	−100,003	1	4	−3	100,003	3
I	100,001	−1,003	.01	4	−3	100,300	300

$(n - 1)$ of firms other than the ith in the symmetrical group. As Pfouts and Ferguson have pointed out, this is precisely true only in the limiting case when $E_{ii}^* = 0$ (and $b_i = 1$)—as may be seen from equations (5), (6), and (8), and from the symmetry condition whereby $E_{ij} = E_{ji}$. For all relevant values of $E_{ii}^* \leq 0$ (with $b_i \geq 1$), it may be similarly seen that:

$$-\frac{E_{ii}}{E_{ji}} = n - 1 + \frac{b_i - 1}{a_{ji}} = n - 1 - \frac{E_{ii}^*}{E_{ji}}, \quad (9)$$

and

$$\frac{-E_{ii} + E_{ii}^*}{E_{ji}} = n - 1. \quad (10)$$

For instance, in the example presented by Pfouts and Ferguson (Case A), there is a marked difference between $-E_{ii}/E_{ji} = 5$ and $n - 1 = 2$. The difference is accounted for by the value of $-E_{ii}^*/E_{ji} = 3$.

Although $-E_{ii}/E_{ji}$ is sometimes approximated reasonably well by $n - 1$ in the present type of symmetrical market situation, I willingly concede that often, as in the foregoing example, the approximation may be relatively poor. Moreover, it may be made progressively worse by letting $-a_{ii}$, b_i, and $-E_{ii}^*$ become ever larger, with given a_{ji} and n. For example, in Case B, $-E_{ii}/E_{ji} = 100$ in contrast to $n - 1 = 2$. On the other hand, the approximation is often quite good, not only when $E_{ii}^* \to 0$ (and $b_i \to 1$), but also when n and $-a_{ii}$ are increased substantially, with given a_{ji}, b_i, and E_{ii}^*, or when $-a_{ii}$ and a_{ji} are increased substantially, with given n, b_i, and E_{ii}^*. In Case C, for example, $-E_{ii}/E_{ji} = 103$ is a fairly good relative approximation of $n - 1 = 100$. In Case D, similarly, $-E_{ii}/E_{ji} = 2.06$ is an equally good approximation of $n - 1 = 2$. Still closer approximations are illustrated in the remaining cases of Table I.

My main point, however, is that my previous failure to explore the nature and validity of this approximation does not invalidate my market classification in terms of $-E_{ii}$ and $-E_{ii}/E_{ji}$. Quite the contrary, when $-E_{ii}/E_{ji}$ and $n - 1$ differ significantly (because $-E_{ii}^*/E_{ji}$ is large relative to $-E_{ii}/E_{ji}$), the likely presence or absence of a significant oligopolistic interdependence between the ith and jth firms is indicated better by the elasticity ratio than by the number of firms in the group. To see this, consider the two above examples in which $n = 3$ and $a_{ji} = 1$. In Case A, where $-E_{ii}/E_{ji} = 5$, the likelihood of a significant oligopolistic relationship is appreciable; for, if p_i is cut while each p_j is held constant, each q_j will be reduced by one-fifth the amount of the resulting increase in q_i. Thus the ith firm could not safely seek an appreciable expansion of its sales by cutting its price without having a noticeably unfavorable effect on each q_j; and there would therefore be a considerable danger that a reduction of p_i would induce retaliatory cuts of each p_j. But in the contrasting Case B, where $-E_{ii}/E_{ji} = 100$, the likelihood of a significant oligopolistic relationship is certainly far less, since a reduction of p_i with each p_j constant would then reduce each q_j by only one-hundredth the resulting increase of q_i.[4] Further-

[4] In this admittedly peculiar case, it may be wondered whether the three firms can even be considered to comprise a meaningful group, since the expansion of q_i from a reduction of p_i comes predominantly from reduced expenditure on the products of other firms outside the group. Case B is, of course, only a strengthened version of the case that Pfouts and Ferguson used against my excessively casual identification of $-E_{ii}/E_{ji}$ with $n - 1$; but it is also a conceivable case and one that is

more, even if the three firms were to establish a symmetrical collusion, that situation would hardly differ at all from their essentially non-oligopolistic Bertrand equilibrium (in which each firm maximizes its profit on the assumption that the other two firms' prices are constant).[5] With a given small n, in short, the oligopolistic connection between a given pair of firms is the weaker as $-E_{ii}/E_{ji}$ becomes larger.

Besides being more reliable than numbers as an indicator of oligopolistic interdependence even in a symmetrical group, the elasticity ratio can also be justified in that role without reference to numbers and in all sorts of markets. From this standpoint, it is probably better to invert the ratio, whereupon it may be interpreted as:

$$-\frac{E_{ji}}{E_{ii}} = -\frac{\partial q_j}{\partial q_i} \cdot \frac{q_i}{q_j}. \tag{11}$$

This is a ratio (positive in value when the products are substitutes) of the percentage change in q_j to the percentage change in q_i, as induced by a change of p_i.[6] In general, as this ratio approaches zero, it implies—to the extent that point elasticities approximate the relevant arc elasticities—that the ith firm can change its price, and thereby induce perhaps a substantial change in its quantity sold, without having any appreciable impact on the jth firm. This, of course, is the universally acknowledged condition for the likely absence of any significant oligopolistic relationship between the two firms, at least from the ith firm's point of view.[7] And conversely, as the same ratio rises in value, it reflects an increase in the oligopolistic nexus, again from the ith firm's point of view.[8]

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consistent with an identifiable three-firm group, since each E_{ji} within the group may still be at least several orders of magnitude larger than the similar cross-elasticities between any member of the group and any one of the numerous other firms in the economy whose sales are at least slightly affected by a change of p_i.

In general, a group is well-defined if there is a distinct gap in the chain of substitutes—that is, if each E_{ji} within the group (whether large or small) is at least markedly larger than any of the similar cross-elasticities between each ith product within the group and any product outside the group. It is only in this respect, incidentally, that the non-oligopolistic species of monopolistic competition can be distinguished from simple monopoly.

[5] In Case B, each firm's Bertrand demand (Chamberlin's dd') is $q_i = -100p_i + 2p_j + 99$ or, with each $p_j = 1$, $q_i = -100p_i + 101$. Then, if the group is to be in a Bertrand equilibrium with each $p_i = 1$ and $q_i = 1$, each firm's marginal cost (MC) must be .99 at its equilibrium output, since $E_{ii} = -100$ and $MR = AR(|1/E_{ii}| + 1) = .99$. Alternatively, the demand relevant for the group's symmetrically collusive equilibrium (Chamberlin's DD') is $q_i = -98\ p_i + 99$. Then, if each firm's $AC = MC = .99$, this equilibrium implies that each $q_i = .99$ and $p_i = 98.01/98 = 1.0001$. Furthermore, each firm's symmetrically collusive profit is then $\pi_i = .9801/98 = .010001$, which is only .01 per cent greater than its Bertrand-equilibrium profit of $\pi_i = .01$.

In case A, by contrast, each firm's Bertrand demand is $q_i = -5p_i + 2p_j + 4$ or, with each $p_j = 1$, $q_i = -5p_j + 6$; and if the group is to be in a Bertrand equilibrium with each $p_i = 1$ and $q_i = 1$, each firm's equilibrium MC must be .8. On the other hand, the demand relevant for a symmetrically collusive equilibrium is $q_i = -3p_i + 4$; and, with each firm's $AC = \text{MC} = .8$, this equilibrium implies that each $q_i = .8$ and $p_i = 16/15 = 1.0667$. Each firm's symmetrically collusive profit is then $\pi_i = 3.2/15 = .21333$, which is 6⅔ per cent greater than its Bertrand profit of $\pi_i = .2$.

[6] Bishop, *op. cit.*, p. 78, n. 16.

[7] As Chamberlin puts it, for example (*op. cit.*, p. 74), businessmen are likely to disregard the interdependence between their markets whenever "the effects of a change inaugurated by any one seller are spread over such a large number of competitors that they are negligible for each."

[8] In symmetrical duopoly, as $E_{ii}^* \to 0$, this ratio approaches unity as a limit. It may sometimes, however, exceed unity—as in an asymmetrical duopoly when the ith firm is the larger. Nevertheless, such ratios will ordinarily lie between zero and one, such that values between unity and .1 would clearly be "large," while values between .01 and zero would just as clearly be "small." As is well recognized, whether in terms of the number of firms or this elasticity ratio, there is no unique borderline between oligopoly present and oligopoly absent.

Friedman, incidentally, condemns my scheme of market classification because "It rests basically on certain numbers being classified as 'large' or 'small' yet there is no discussion at all of how to decide whether a particular number is 'large' or 'small,' as of course there cannot be on a purely abstract level." M. Friedman, *Essays in Positive Economics* (Chicago, Ill.: University of Chicago Press, 1953), p. 39, n. 34. I quite agree that 'large' and "small" acquire meaning only with reference to an empirical association between the values of numerical coefficients and certain aspects of behavior in which we have an analytical interest. For example, I characterize $-E_{ji}/E_{ii}$ between .01 and zero as "small," because of an implied prediction that the ith firm, in determining its price, is then unlikely to be concerned about possible re-

In asymmetrical situations, it should be appreciated that $-E_{ji}/E_{ii}$ and $-E_{ij}/E_{jj}$ will differ. Moreover, it is quite possible that one of these ratios may be relatively large while the other is relatively small, especially if the firms differ markedly in size. If so, one of the firms will have at least a one-sided oligopolistic relationship toward the other; and, by its market policy, it may succeed in inducing a reciprocal recognition of oligopolistic interdependence.[9] Thus a direct oligopolistic relationship between the two firms can be confidently ruled out only if both ratios are small. Furthermore, in a well-defined group of three or more firms, an oligopolistic relationship within the group can be ruled out only when all such ratios are small.

I recognize that some people may be unsympathetic with a "numbers" interpretation of the significance of these elasticity ratios, especially when a group of firms is either asymmetrical or ill-defined.[10] Such readers may stop here. In my own view, however, that interpretation adds intuitive meaning to the elasticity ratios. Thus, in general, the reciprocal of equation (11) indicates that the ith firm's relationship to the jth—specifically in the context of a change of p_i—is much the same as if they were both members of a well-defined, symmetrical group of $n = -(E_{ii}/E_{ji}) + 1$ firms facing a perfectly inelastic group demand (*i.e.*, with $E_{ii}^* = 0$). I add the last clause with a bow of acknowledgment to Pfouts and Ferguson. I also submit that, far from showing my classificatory scheme to be invalid, they have really been instrumental in improving it.

III. PRODUCT SUBSTITUTABILITY

Pfouts and Ferguson unfortunately repeat the old misconception that the cross-elasticity E_{ji} is zero in pure competition; and even more surprisingly they regard as "very dubious" the proposition that it approaches infinity in pure or homogeneous oligopoly.[11] It should be granted that cases of strictly homogeneous products pose certain logical difficulties, because the quantity demanded of any one producer is then, rigorously speaking, indeterminate when all such producers charge the same price. We can cope with these difficulties, however, if we consider strictly homogeneous products as just the limiting case that is approached as differentiated products become more and more nearly homogeneous. Since it can be shown that both $-E_{ii}$ and E_{ji} do indeed then go to infinity, it becomes difficult indeed to support the view that somehow, *at* the limit, either of these coefficients falls to zero or some other finite magnitude.

In oligopoly, first of all, starting with Case A and passing rapidly through Case D, let us suppose that the three sellers' products become less and less differentiated, but without affecting the values of n, b_i, or E_{ii}^*. Clearly, E_{ji} and $-E_{ii}$ may both become indefinitely large, and vastly larger even than in Case E. In this sense, accordingly, both coefficients approach infinity as product differentiation vanishes. To be sure, especially large values of E_{ji} and $-E_{ii}$, as in Case E, do not mean that any one firm can sell indefinitely large quantities by shading its price. Rather, from a starting point where $p_1 = p_2 = p_3 = 1$ and $q_1 = q_2 = q_3 = 1$, one seller by shading p_i with each p_j constant can move along the demand function of equation (1) only until each $q_j = 0$, whereupon his demand in the face of further price cuts would become abruptly less elastic and the cross-elasticities E_{ji} would become indeterminate ($E_{ji} = 0/0$, since $\partial q_j/\partial p_i = 0$ and $q_j = 0$).[12] Similarly, if p_i is raised above unity, the demand functions of equation (2) will apply only until $q_i = 0$, whereupon for further increases

actions of the jth firm and will, therefore, not be deterred on that score from setting

$$p_i = MC \cdot E_{ii}/(E_{ii} + 1).$$

Similarly, if $-E_{ji}/E_{ii}$ is small with reference to every jth firm and $-E_{ii}$ is "large" (*eg.*, 100 or more), that characterization reflects a prediction that p_i and MC will be approximately equated. It should be appreciated that Friedman appropriately asks only for "broadly correct results" from such predictions (p. 37).

[9] Bishop, *op. cit.*, pp. 802–803.

[10] For example, Fellner says: "But Bishop's suggestion that the elasticity ratio be called a 'numbers equivalent' may not be fortunate." W. Fellner, "Elasticities, Cross-Elasticities, and Market Relationships: Comment," *American Economic Review*, December 1953, p. 909.

[11] *Op. cit.*, pp. 112 and 113. In their table (p. 118), they also indicate (in translation to my own notation) that $0 < -E_{ii} < \infty$ in homogeneous oligopoly, in contrast to their correct identification of $-E_{ii} \to \infty$ in homogeneous competition.

[12] *Cf.* n. 2, above. In Case E, with each $p_j = 1$, each q_j is reduced to zero when $p_i = .9999$ and $q_i = 3.0003$. If p_i were then cut further toward zero, q_i would increase toward a maximum of not quite 12. Although $-E_{ii}$ is in excess of 20,000 throughout the range of $1 > p_i > .9999$, it falls below 9 when $p_i < .9999$. Similarly, as p_i declines within the same range, E_{ji} actually rises without limit as $q_j \to 0$, before becoming indeterminate when $p_i < .9999$.

of p_i, E_{ii} is indeterminate ($E_{ii} = 0/0$, since $\partial q_i/\partial p_i = 0$ and $q_i = 0$) and each $E_{ji} = 0$. Within the range where $q_i > 0$ and $q_j > 0$, however, the conclusion is inescapable that $-E_{ii} \to \infty$ and $E_{ji} \to \infty$ as product homogeneity is approached.[13]

Pure competition is logically more complex because it is a limiting case that involves two limiting processes, as product homogenity is approached and the number of firms becomes indefinitely large. These limiting processes may be considered both separately and jointly.

First, with any given number of firms, whether large or small, $-E_{ii}$ and E_{ji} both rise without limit as product differentiation vanishes. For example, if we fix $n = 101$ as in Case C and then let the products become more nearly homogeneous, with unchanged b_i and E_{ii}^*, it follows that $-E_{ii}$ and E_{ji} can both be made indefinitely large—with Case F merely a way station of that limiting process. This is sufficient to show, contrary to the allegation of Pfouts and Ferguson, that E_{ji} is neither zero nor necessarily small, but rather indefinitely large as product homogeneity is approached with any given n. And, if $n = 101$ and $-E_{ii}/E_{ji} = 100.003$ (as in Case F) do not yield a sufficiently close approach to pure competition, then let n and $-E_{ii}$ both be increased as in Case G, with given $E_{ji} = 1{,}000$.[14]

On the other hand, pure competition can also be approached without any increase in the substitutability between pairs of products, if we let n become indefinitely large without any change of E_{ji}, b_i, or E_{ii}^*. This may be illustrated by starting with Case A and passing through Case C to Case H and beyond. Moreover, it is even possible to retain a remarkably close approximation of theoretical pure competition even with a greatly reduced E_{ji}, provided that n is sufficiently large to keep $-E_{ii}$ large enough so that the demand facing the individual firm will still be approximately horizontal. This is illustrated by Case I, which represents a weakening of product homogeneity as compared with Case H. It is in the light of such cases as H and I that I choose to identify the approach to product homogeneity in terms of a high value of $-E_{ii}$ rather than in terms of a high value of E_{ji}.[15]

On the other hand, the definitive conception of theoretical pure competition involves both an increase in the number of firms without limit and an indefinitely close approach to product homogeneity. Hence an even-handed way of formulating these joint limiting processes would be, for example, to start with Case A and first increase the number of firms with given E_{ji} (to Case C), then increase product homogeneity with given

[13] Pfouts and Ferguson argue (*op. cit.*, pp. 113–114): "The condition that the cross elasticity coefficient approach infinity in the circular homeopoly case . . . implies that, because of homogeneity of the products, one competitor will lose his entire sales if he raises his price. This is clearly not true if his rivals cannot supply the entire quantity that will be demanded. . . . Hence, while cross elasticity is positive, it will not approach infinity." This argument is defective on several counts. For one thing, if demand functions are modified by supply limitations (if any), this implies demand kinks at points where the supply limitations take effect. For another, E_{ji} is a point concept; but, even if it is interpreted as an arc cross-elasticity within the range where the supply limitations are not yet operative, it still approaches infinity as product differentiation vanishes. In other words, as product homogeneity is approached, even small finite changes of q_i and q_j as induced by *indefinitely small* changes of p_i are sufficient to establish that $-E_{ii}$ and E_{ji} both become indefinitely large in that vicinity. In general, moreover, it is inadvisable to let supply limitations intrude at all in the present context, because the substitutability of products in the eyes of customers is exclusively a demand phenomenon.

[14] Pfouts and Ferguson believe that cross-elasticities such as E_{ji} must be zero in pure competition, or must at least be thought to be zero by the pure competitors themselves (*op. cit.*, p. 112), in order that inter-firm reactions of an oligopolistic kind may be ruled out. I invite them to consider whether Case G is likely to be significantly oligopolistic.

Although they correctly cite Chamberlin, among others, as having held their view on this point, they fail to notice his acknowledgment that he was mistaken. E. H. Chamberlin, "Elasticities, Cross-Elasticities, and Market Relationships: Comment," *American Economic Review*, December 1953, p. 911.

Finally, in pure monopoly, which is one case where the E_{ji} coefficients are indeed necessarily very small if not zero, they are asserted to be "not defined" (*op. cit.*, pp. 116 and 118). The reason the authors give, namely that there is then "a complete absence of interaction between firms," actually implies zero cross-elasticities. *Cf.* their own answer to A. Heertje when he asserted that the coefficient of conjectural variation between competitors is non-existent, rather than zero. R. W. Pfouts and C. E. Ferguson, "Conjectural Behavior and the Classification of Oligopoly Situations," *Southern Economic Journal*, October 1960, p. 140.

[15] *Cf.* my "Elasticities, Cross-Elasticities, and Market Relationships: Reply," *American Economic Review*, June 1955, pp. 382–386.

n (to Case F), then increase numbers again (to Case G), and so on. At each step in this process, it may be noticed that $-E_{ii}$ increases, while n (and with it, $-E_{ii}/E_{ji}$) and E_{ji} increase alternately. In the limit of this joint process, of course, all of these coefficients go to infinity.

IV. OTHER ELEMENTS

Space is not available for a detailed critique of the two additional classificatory coefficients proposed by Pfouts and Ferguson; but I should like to indicate briefly what seem to me to be the more serious defects of their proposals.

They adopt Papandreou's coefficient K_i, which he represented as an index of a firm's capacity "to match with supply units the demand units which stand ready to shift to it following its price change."[16] K_i is some incompletely specified function of E_{ii} and θ_i, the elasticity of the ith firm's output with respect to its total-cost outlay. Thus, if the firm's total-cost function is $C_i = C_i(q_i)$, that elasticity is:

$$\theta_i = \frac{dq_i}{dC_i} \cdot \frac{C_i}{q_i}. \tag{12}$$

Waiving the fact that K_i is a non-operational concept because no one is prepared to say just how it depends on θ_i and E_{ii} (save that $\partial K_i/\partial\theta_i > 0$, $\partial K_i/\partial E_{ii} < 0$, and $0 \leq K_i \leq 1$),[17] I undertake to show that neither K_i (which Pfouts and Ferguson use by itself) nor K_i times E_{ji} (which Papandreou employed as a "coefficient of penetration") can add anything whatever to E_{ii} and E_{ji} as tools for market classification. This is a matter of showing that θ_i adds nothing, since it is the only additional ingredient.[18]

If the firm's average and marginal costs are designated as AC and MC, respectively, it may be noticed from equation (12) that $\theta_i = AC/MC$. Since the comparative magnitudes of AC and MC depend on the slope of AC, it follows that θ_i is greater than, equal to, or less than unity according as the slope of AC is negative, zero, or positive.

It can be said, of course, that a purely competitive firm will be making a loss if it is in (short-run) equilibrium on the declining portion of AC, and a profit on the increasing portion, whereas a firm in any other type of market may be making a profit even where AC is declining; but otherwise there is no distinctive correlation between a firm's market situation and the relationship of AC to MC. Thus, if all we know about a firm is the magnitude of $\theta_i = AC/MC$, this tells us precisely nothing about the competitive or monopolistic nature of the market. For any given magnitudes of E_{ii} and E_{ji}, moreover, no definite limits can be put on θ_i short of zero and infinity. Clearly, such a coefficient is inherently of zero utility in market classification.

Pfouts and Ferguson also make use of a coefficient of conjectural variation:

$$\nu_{ji} = \frac{\partial p_j}{\partial p_i} \cdot \frac{p_i}{p_j}. \tag{13}$$

As they say, this reflects "the relative change in the price of the j-th entrepreneur that entrepreneur i *believes* he will induce by changing his (the i-th) price."[19] They propose using this coefficient not only to distinguish oligopoly from nonoligopoly, but also to distinguish homogeneous from heterogeneous oligopoly.

For the former purpose, their suggestion has a certain plausibility, because a value of ν_{ji} significantly different from zero is indeed a sufficient condition for the presence of an oligopolistic relationship. On the other hand, it is not a necessary condition, since there are some special cases in which ν_{ji} may be zero even between oligopolists. For example, in certain warfare situations, in which each oligopolist may be seeking either to drive one or more of his rivals out of business or to persuade a sufficient number of them to raise their prices and reduce their market shares substantially, each warring seller may peg his price at a low level where it may be wholly insensitive to small price changes on the part of any rival. Similarly, in a Stackelberg duopoly equilibrium in which the ith duopolist adjusts his price *à la* Bertrand and his rival then maximizes his profit on that basis, correct mutual expectations again imply that $\nu_{ji} = 0$, even though $\nu_{ij} > 0$.[20] Finally, a Bertrand equilibrium

[16] A. G. Papandreou, "Market Structure and Monopoly Power," *American Economic Review*, December 1949, pp. 890–891.

[17] Although Pfouts and Ferguson say (*op. cit.*, p. 113) that the "exact form" of this function is "not known," this does not keep them from asserting later (p. 118) that K_i is "operationally meaningful."

[18] *Cf.* Bishop, *op. cit.*, pp. 789–790, n. 17.

[19] *Op. cit.*, p. 116 (their italics).

[20] *Cf.* W. Fellner, *Competition Among the Few* (New York: Alfred A. Knopf, 1949), pp. 75–76 and 92–93.

implies that each $v_{ji} = 0$, even though this reflects incorrect views as to actual reactions. Although it may be conceded that Bertrand *behavior* is nonoligopolistic, it would be rash to classify markets with few sellers as nonoligopolistic *situations* simply because the rivals are acting at least temporarily in a naive manner.

Oddly enough, Pfouts and Ferguson consider homogeneous and heterogeneous oligopoly to be clearly distinguishable *only* in terms of v_{ji}.[21] They say of this coefficient, however, that it is "approximately unity" in homogeneous oligopoly and merely "not equal to zero" in heterogeneous oligopoly.[22] Since these specifications do not rule out the possibility that v_{ji} may equal unity even when the oligopolists' products are differentiated, it is clear that this coefficient does not have the power attributed to it. Under symmetrical demand and cost conditions, for example, suppose that each oligopolist is willing to accept the symmetrically collusive equilibrium that yields him a maximized profit with respect to Chamberlin's DD'.[23] Then, if each oligopolist correctly expects that the others would match any price reduction below the collusive level, this implies that each $v_{ji} = 1$, at least for price changes in that direction.[24] Since this implication is independent of the degree of differentiation of the oligopolists' products, it follows that v_{ji} cannot reliably distinguish homogeneous from heterogeneous oligopoly.[25]

[21] *Op. cit.*, p. 118.

[22] *Op. cit.*, p. 117.

[23] Chamberlin, *op. cit.*, p. 100, including the reference back to the comparable equilibrium with homogeneous products.

[24] On the other hand, since rivals would have no plausible motive to follow any one firm's increase of price above the collusive level, a correct appreciation of this would imply that each $v_{ji} = 0$ in that direction. This would imply a kinked demand, despite the rather cryptic dismissal of that possibility by Pfouts and Ferguson (*op. cit.*, p. 117, n. 16).

[25] I shall merely mention, without elaborating, other objections of a more general kind to the use of conjectural-variation coefficients in market classification: (1) as Pfouts and Ferguson concede (*op. cit.*, p. 116), those coefficients are regrettably subjective rather than objective; (2) they are "behavioral" rather than "structural," and hence, instead of being rooted in the data for the market problem, they are subject to the uncertainties of that problem's solution; (3) the v_{ji} coefficients may be of questionable relevance, as compared for example with similar coefficients in terms of outputs, especially when products are strictly homogeneous; and (4) they may not be unique, even for price changes in a given direction, especially in the light of the fundamental uncertainties or indeterminacy of the oligopoly problem.

V. CONCLUSION

The foregoing discussion may be briefly summarized. It was largely based on a number of cases involving a symmetrical group of n firms facing linear demands for their differentiated products, as set forth in Part I.

It was acknowledged in Part III that the elasticity ratio $-E_{ii}/E_{ji} = n - 1$ only when the elasticity of group demand $E_{ii}^* = 0$, as Pfouts and Ferguson pointed out; and the nature of the approximation whereby $-E_{ii}/E_{ji} \approx n - 1$ in certain other cases was also explored. More importantly, it was further shown that the ratios $-E_{ii}/E_{ji}$ and $-E_{jj}/E_{ij}$ are consistently better than n as indicators of a likely oligopolistic connection between firms i and j.

In Part III it was shown that Pfouts and Ferguson were wrong in denying that, for any given n, the cross-elasticity $E_{ji} \to \infty$ as product homogeneity is approached. On the other hand, since pure competition can also be closely approached even with relatively small values of E_{ji}, it was pointed out that $-E_{ii}$ is better than E_{ji} as a quantitative indicator of the degree of product homogeneity.

In Part IV it was shown that neither the coefficient of penetration proposed by Papandreou nor the component of that coefficient adopted by Pfouts and Ferguson is capable of adding anything to the elasticities E_{ii} and E_{ji} for the purpose of market classification. It was also pointed out that coefficients of conjectural variation cannot reliably distinguish homogeneous from heterogeneous oligopoly, and are sometimes unreliable even in distinguishing oligopoly from other market types.

To end on a positive note, I submit that the foregoing discussion has amply demonstrated (a) that $-E_{ii}$ is the most reliable indicator of product homogeneity or heterogeneity in the specific sense of the degree of substitutability between the ith product and the collection of all other available products, and (b) that $-E_{ii}/E_{ji}$ and $-E_{jj}/E_{ij}$ (or their reciprocals) are the best indicators of the likely presence or absence of an oligopolistic relationship between the suppliers

of the ith and jth products. These coefficients are reliable not only in the symmetrical cases that have been discussed, but also when the relationships between firms are asymmetrical; and they are likewise reliable whether or not firms are subject to any uniquely meaningful grouping.

ROBERT L. BISHOP
Massachusetts Institute of Technology

THEORY, OPERATIONALISM, AND POLICY: A FURTHER NOTE ON MARKET CLASSIFICATION[1]

I. INTRODUCTION

The admirable comment by Professor Bishop[2] serves to focus attention upon some weaknesses in our earlier paper.[3] In the first place, we apparently failed to specify with sufficient clarity the "theoretical milieu" of our theoretical classification. Secondly, and equally apparently, we failed to explain sufficiently the "operational" nature of our policy classification. And finally, our precise meaning of "subjective demand" was not made clear.

It is to these shortcomings that the present note is, to a great extent, addressed. We will, in passing, comment upon certain of Professor Bishop's remarks. These comments rely, in large part, upon our interpretation of the essential features of the theory of the firm. That some economists do not regard these characteristics as "essential" is evidenced by Bishop's article, as well as by that of Heertje.[4] Perhaps all this means is that people are still free to speculate about so venerable a subject as the "theory of the firm." Before turning to these fundamental areas of disagreement, however, we will offer some brief comments on Bishop's improved classification system.

II. THE ASSUMPTIONS OF BISHOP'S IMPROVED SYSTEM[5]

A rather careful study of Bishop's improved system has led us to conclude that we have no objections to his logic nor to his calculations. On the other hand, we do want to draw attention to the assumptions which underlie his examples and to take exception to his interpretation of the "new" system of classification.

Professor Bishop stated his assumptions very clearly. Our motive in restating them is to focus attention upon their economic meaning. The assumptions which we wish to consider are as follows:

1. All demand equations are linear. By using this assumption Bishop loses any claim to having demonstrated his propositions for other types of demand equations. Furthermore, he is not entirely correct in asserting that generality is retained because at a point on a non-linear function, the tangent is linear. He has specified a fixed linear system; the slopes within this system can equal those of a nonlinear system at a finite number of points at most. Under the usual assumptions of economic theory, the number of points of equality would be small.

Actually, of course—as Bishop has said in

[1] By mutual consent, this note terminates the exchange between Professor Bishop and us. Our discussions have continued, however, in private correspondence. Utilizing his letters, we will indicate in footnotes those assertions of ours to which Professor Bishop takes particular exception.

[2] Robert L. Bishop, "Market Classification Again," *Southern Economic Journal*, July 1961, pp. 83–90.

[3] Ralph W. Pfouts and C. E. Ferguson, "Market Classification Systems in Theory and Policy," *Southern Economic Journal*, October 1959, pp. 111–118.

[4] A. Heertje, "Market Classification Systems in Theory," *Southern Economic Journal*, October 1960, pp. 138–39. See also Ralph W. Pfouts and C. E. Ferguson, "Conjectural Behavior and the Classification of Oligopoly Situations," *Southern Economic Journal* October 1960, pp. 139–41.

[5] We should like to point out that Professor Bishop does not regard his "Market Classification Again" as embodying a system of classification which is, in any fundamental respect, different from the system which he originally proposed in his paper "Elasticities, Cross-Elasticities, and Market Relationships," *American Economic Review*, XLII (1952), pp. 779–803. Similarly, although he acknowledges that linearity and symmetry assumptions were indeed embodied in his examples, he regards those examples as merely illustrative but, as such, sufficient to refute our aspersions on his classification scheme. He says it was not his intention to apply his classification system only to such special cases, as his three paragraphs about "all sorts of markets" and "asymmetrical situations" at the end of Section II were meant to convey.

response to these observations—market classifications which are related to point elasticities must refer to *some* given situation, i.e., to some one point in the 2-n dimensional space defined by p_1, p_2, $\cdots$, p_n, q_1, q_2, $\cdots$, q_n. And by the very definition of the term "elasticity," the elasticities at any such *given* point are independent of all derivatives of order higher than one. Hence Bishop's classificatory variables— $-E_{ii}$ and $-E_{ii}/E_{ji}$—are, at some *one* point on a smoothly curvilinear demand function, precisely equal to the elasticities of the linear demand function which is tangent to it at the point in question. But if one or more prices change, equilibrium is attained at a different point in the 2-n dimensional space. The elasticities will consequently change, whether the functions be linear or curvilinear. And if the fundamental system is curvilinear, the tangent linear function must change in order to correspond at the new point.

Bishop believes that "this does not matter as long as it is appreciated that market classification applies to only one point at a time." This is certainly true, although it definitely makes a difference according as the classification refers to the initial point or to the ultimate point. In any event, it should be pointed out in all fairness that there is a long and still strong precedent for the assumption of linear demand. We accordingly raise no strenuous objection to this assumption.

2. The prices of all firms are equal *at all times*, i.e., $p_1 = p_2 = \cdots = p_n$. This seems to be a necessary precondition for Bishop's mathematical derivations. For example, without this stipulation, the elasticity coefficients appearing in his equations 4, 5, and 6 are valid only at the original equilibrium position. It should be noted that this is not a result obtained from his system; instead, continued price equality is an assumption upon which his system depends. *Consequently, price differentials among firms in Bishop's new system are impossible.*

3. The quantity sold by any one firm is exactly the same as the quantity sold by any other firm, i.e., $q_1 = q_2 = \cdots = q_n$. This again seems to be an assumption upon which Bishop's system rests; it is an essential ingredient of the system. *The economic meaning of this is that it is impossible for any firm in Bishop's improved system to increase its market share.*

4. All firms have exactly the same demand equations, i.e., $b_i = b_j$ and $a_{ij} = a_{ik} = a_{jl}$. *Thus in Bishop's system all firms have the same demand elasticities and the same coefficients of conjectural variation and, moreover, both groups of coefficients are constants.* Thus in an extremely important sense, the relationship between the firms are frozen. In our original critique of Bishop's "number-equivalent" concept, we used a set of linear demand equations possessing the properties just described. This was *not* because we felt that such a system was particularly descriptive of economic reality; rather, it was to show the fallacy by means of the simplest possible example. A single contrary example is sufficient to prove a point false; this is precisely what we were doing. Bishop, on the other hand, is proposing a system which presumably possesses some generality. Hence examples are only illustrative of his case; they are not proof.

In appraising these, or any other assumptions, the important question concerns the extent to which the assumptions approximate reality. The answer to such a question depends largely upon individual judgment, for each of us probably interprets "economic reality" somewhat differently. We, however, regard Bishop's assumptions as unrealistic. Nevertheless, it is clearly up to the reader to form his own opinion as to the realism of these assumptions. We do believe that any interpretation of Bishop's new system must be made in light of the assumptions and their economic implications for the system.

III. THE THEORY OF MARKET CLASSIFICATION

According to Cournot's theory of the behavior of firms, an "industry" was slowly but continuously transformed from pure monopoly to perfect competition by the successive addition of firms. Our point of departure has been exactly the opposite. In our opinion, within the framework of profit-maximizing models,[6] there is a clear-cut distinction along the way. Perfect competition and pure monopoly are alike in that the firms in either regime are oblivious to actual or potential direct competition. On the other hand, it seems to us that the chief distinguishing characteristic of oligopoly is that firms must anticipate, and take recognition of, their influence over direct rivals.

[6] The following statement does not necessarily hold for other theories, such as Baumol's sales-maximization model and Simon's "satisficing" model.

This fundamental thesis, the recognizable interdependence of oligopolists, formed the basis of our approach to the *theory* of market classification. In this respect, we actually differ but little from Bishop *in two cases*, namely homogeneous and heterogeneous competition. Although he objects in several instances to our use of the coefficient of conjectural variation, he in fact uses an analogous coefficient in his scheme of market classification, at least as it refers to homogeneous and heterogeneous competition. In particular, it is clear from his distinction between E_{ii} and E_{ii}^* that the former refers to Chamberlin's dd' curve and the latter to the DD' curve.

Now it happens that in cases of homogeneous, and even more relevantly heterogeneous, competition, Chamberlin's dd' curve is the entrepreneurial subjective demand curve. The dd' curve is defined in terms of the quantity variations expected by the i-th entrepreneur as a result of changes in his price all other prices remaining constant. The i-th entrepreneur, believing himself to be a "large-group" competitor, thinks that his actions will go unnoticed by his rivals. Consequently, he does not think that a change in p_i will induce a change in p_j.

But notice that this is a special interpretation. The dd' curve is the subjective demand curve only because by Chamberlin's assumptions, entrepreneurs in the large-group case believe that their actions will not affect their rivals' behavior. Within this special context, Bishop's elasticity ratio (his equation 11) is a coefficient of conjectural variation with respect to *quantity* as the relevant parameter of action.[7] And one should also notice that in these two cases of correspondence, Bishop's elasticity ratio has the same value which we assigned the coefficient of conjectural variation, namely zero. The real difference here lies in our taking price, rather than quantity, as the apposite parameter of action. Since this is a minor point, and since we have attempted to justify it in our original article, the arguments are not repeated here.

With these two cases, our agreement ends.[8] In oligopoly situations, the coefficient of conjectural variation and Bishop's elasticity ratio are not the same. The latter is always taken with respect to Chamberlin's dd' curve. Thus in all cases, the elasticity coefficients refer to a quasi-subjective demand curve, i.e., a curve which measures the expected change in quantity demanded as a result of a change in price *if* all other prices are unchanged. The elasticity ratio, then, is a measure of the expected unilateral effect of one entrepreneur on the market as a whole. Our coefficient of conjectural variation, on the other hand, measures the total market effect of a competitive maneuver initiated by the i-th entrepreneur, but it allows for the *expected* competitive countermaneuvers of his rivals.

The principal difference between Bishop's classificatory system and ours lies *not* in his use of the elasticity ratio. Our system could be expressed in exactly the same terms, so far as the theoretical classification is concerned. It would be more cumbersome to do so, but our results would be unchanged. The issue of difference lies rather in the *measure* of elasticity. This can be exhibited once-for-all in a clear manner, and the reader may decide which interpretation he deems more relevant as an indicator of oligopolistic markets.

Bishop's elasticity measures may be written as follows:

$$E_{ii} = \frac{\partial q_i}{\partial p_i}\frac{p_i}{q_i}\Bigg]_{dp_j=0} \quad \text{and} \quad E_{ji} = \frac{\partial q_j}{\partial p_i}\frac{p_i}{q_j}\Bigg]_{dp_j=0}. \tag{1}$$

The corresponding terms in our system may then be expressed as

$$\eta_{ii} = \frac{\partial q_i}{\partial p_i}\frac{p_i}{q_i} \quad \text{and} \quad \eta_{ji} = \frac{\partial q_j}{\partial p_i}\frac{p_i}{q_j}. \tag{2}$$

[7] That is, to take the partial derivative of q_j with respect to q_i in reference to a subjective demand function (Chamberlin's dd' curve in this special instance) implies that the entrepreneur in question *believes* that q_j is functionally related to his (the ith) quantity. As Frisch originally pointed out, the coefficient of conjectural variation may be taken either from an expected reaction function or from a subjective demand function. *Cf.* Ragnar Frisch, "Monopole—Polypole—La Notion de Force dans l'economie," in "Festschrift til Harald Westergaard," Supplement to *Nationaløkonomisk Tidskrift*, April 1933. Translated in *International Economic Papers*, No. 1, 1951, pp. 23–36.

[8] But we are in an area of "agreed disagreement" as regards the present paragraph. That is, in private correspondence, Professor Bishop has agreed that if the coefficient of conjectural variation refers to Chamberlin's dd' curve and the large-group case, then the elasticity ratio and the coefficient of conjectural variation are the same, namely zero. But on the other hand, as we state in the text, the two coefficients are not the same otherwise.

Recognizing that the expected price of the j-th entrepreneur is allowed to vary, we may rewrite (2) as

$$\eta_{ii} = E_{ii} + E_{ij}v_{ji} \quad \text{and} \quad \eta_{ji} = E_{ji} + E_{jj}v_{ji}, \quad (3)$$

where v_{ji} is the coefficient of conjectural variation. Thus if both classification systems are expressed in the "same" classificatory variables, Bishop's system rests on equation (1) and ours upon equation (3). A comparison of the two equations throws considerable light upon the two systems of classification. Bishop's system is a "special case" derivable from our system if the coefficient of conjectural variation is zero. As we said in our original paper, this coefficient is zero in homogeneous and heterogeneous competition. Thus the two theoretical systems are the same. In oligopolistic markets, we have argued, the coefficient of conjectural variation is *not* zero. The two systems then differ, and we "agree to disagree" upon which should be used. The reader can decide this for himself by answering the following question: in attempting a market classification, should one allow for "mutual dependence" or "circularity" if it is present?

There are other areas of "agreed disagreement" between us, and it would seem to further both of our interests by pointing these out. These other agreed differences in our theoretical market classifications chiefly pertain to the magnitudes of certain elasticity coefficients. Bishop, quite logically from his viewpoint, objects to our statement that $\eta_{ji} = 0$ in perfect competition and that $0 < \eta_{ji} < \infty$ in cases of homogeneous oligopoly. The first of these, that $\eta_{ji} = 0$ in perfect competition, follows quite naturally from our belief that there is not a smooth continuum extending from pure monopoly to perfect competition. In our opinion, however many times one iterates examples such as those contained in Bishop's Table I, he never reaches *perfect competition*. It is simply not attainable by letting n, the number of entrepreneurs in the group, increase without bound.

There is a definite gap; and this gap is created by the fact that an entrepreneur either believes that his actions affect his rivals or that they do not. So long as an expected demand equation contains a variable pertaining to another firm, the entrepreneur in question *must* expect some interdependence. He cannot, therefore, believe—and, accordingly, act as if—he is a perfect competitor. If the i-th entrepreneur's subjective demand function contains a term such as p_j, he is more than naive to ignore it, he would be definitely inconsistent. A producer is a perfect competitor *in action* if, and only if, his subjective demand function takes the form

$$q_i = \begin{cases} 0, & \text{if} \quad p_i > \bar{p}; \\ \text{any desired amount up to capacity of the firm,} & \text{if} \quad p_i = \bar{p}; \\ \text{any desired amount up to capacity of the firm,} & \text{if} \quad p_i < \bar{p}, \end{cases} \quad (4)$$

where $\bar{p}$ is the market equilibrium price.[9]

Let us attempt to put the matter regarding the nature of cross elasticity in perfect competition in another, and perhaps simpler, way. Suppose that an entrepreneur in a perfectly competitive market considers lowering his price below the equilibrium level. If he does so, he will then—at least as a limit—attract all of the buyers in the market; but he can supply only a negligible portion of this increased demand. Consequently, he subjectively knows that his effect on the quantities sold by other suppliers would be zero, or at least would approach zero. Hence when subjective demand is considered, it is clearly quite reasonable for the seller to view his actions as unrelated to those of his competitors. Indeed this is a small matter, because even before the price change he could sell any quantity which he was capable of putting on the market.

The other difference lies in our qualified statement that $0 < \eta_{ij} < \infty$ in cases of homogeneous oligopoly. While we suggested that spatial differences might account for this, it is on more fundamental grounds that Bishop objects. He cites our statement that η_{ij} cannot increase without bound if rivals are physically unable to supply the entire market. He addresses several remarks to this statement, concluding with the important and valid observation that "... it is inadvisable to let supply limitations intrude at all in the present context, because the substitutability of products in the eyes of consumers is exclusively a demand phenomenon."[10] Indeed it is; but this is irrelevant to the issue at hand, at least given *our*

[9] Equation (4) yields the "necessary" condition that $\eta_{ii} \to \infty$. If one cares to consider it, he may also find the elasticity coefficient $(\partial qi/\partial p)p/qi$, which may increase without bound for

[10] Bishop, "Market Classification Again," *loc. cit.*, footnote 13, p. 87.

interpretation of oligopoly. If η_{ij} referred to a market demand function, one would certainly not wish to allow supply limitations to enter the picture. However, η_{ij} refers to the entrepreneur's subjective demand function. What we meant by our statement is that if the entrepreneur in question thinks that his rivals cannot supply the entire market, he cannot consistently believe that $\eta_{ij} \to \infty$. The reasoning used here is obviously similar to that used in considering cross elasticity in perfect competition in the preceding paragraph.

On this note it is convenient to summarize our "agreed differences" as regards market classification in theory. First, we find that the coefficient of conjectural variation, although not operationally meaningful, is a helpful theoretical construct. Although Bishop objects to its use, his system in fact involves a quantity coefficient of conjectural variation in the cases of homogeneous and heterogeneous competition. Otherwise, however, there is a clear-cut difference which depends upon the role of entrepreneurial expectations in the classificatory scheme. Secondly, there seems to be an irreconcilable difference inasmuch as we do not believe that competition can be reached as a limiting process. In our view, there is an essential difference involving expectations of competitive reaction. Finally, and this is not a point of major importance, we cannot agree that the assumption of a perfectly inelastic group demand curve offers a firm foundation for a market classification.

IV. MARKET CLASSIFICATION AND PUBLIC POLICY

As we pointed out in our original paper, a theoretical market classification can be obtained by using three *subjective* coefficients, namely, direct elasticity, cross elasticity, and conjectural variation. Or alternatively, one may use direct elasticity and the elasticity ratio, providing the definitions of equation (3) are employed. Since all three of these coefficients are subjective, however, they are certainly not susceptible of measurement. They constitute a market classification which is theoretically complete but operationally impossible.

Now if a market classification is to be made for purposes of public policy, it must be one which is at least susceptible of direct measurement. It is for this reason that we introduced the k_j factor in our classification. By means of k_j alone, one may distinguish between competition, on the one hand, and monopoly-oligopoly on the other. This should presumably be adequate for policy uses.

Professor Bishop objects to the use of k_j; and it has become apparent in further correspondence that there is a fundamental difference of opinion which is not likely to be cleared up. He contends, in the first place, that until k_j is given specific definition, it is not measurable. But furthermore, he also contends that θ_j, the average cost-marginal cost ratio, is also not helpful in classification. Rather than discuss these particular objections, we should prefer to conclude this note by offering a rough classificatory scheme for policy usage—with the express proviso that it is designed only to discriminate between *two* broad groups, competition and monopoly-oligopoly.

To begin, let us recall Papandreou's original formulation, as adapted to our paper. Let N_{jj} be the direct price elasticity of the j-th entrepreneur's *objective, market demand curve*. Note that N_{jj} is comparable neither to Bishop's E_{jj}, which is the elasticity measured along the quasi-subjective curve dd', nor to his E_{jj}^*, the elasticity measured along Chamberlin's "proportional-part-of-group-demand" curve DD′. Instead N_{jj} is the elasticity coefficient measured along a (say) statistically determined, market demand function relating to the product of the j-th entrepreneur. Such a curve would certainly not be equivalent to Chamberlin's DD′ curve.

Let θ_j represent the elasticity of the firm's output-outlay function. Thus at any point, θ_j is the ratio of average cost to marginal cost. Using this notation,

$$k_j = \phi(-N_{jj}, \theta_j), \tag{5}$$

where ϕ is a function such that

$$0 \leq k_j \leq 1, \tag{6}$$

and

$$\frac{\partial \phi}{\partial N_{jj}} > 0, \qquad \frac{\partial \phi}{\partial \theta_j} > 0. \tag{7}$$

This is essentially the form which we earlier used and which Bishop criticizes.[11] Note that k_j is

[11] This was not entirely clear in our earlier article, however, because we failed to introduce a symbol, such as N_{jj}, to distinguish between elasticity with respect to subjective demand and with respect to market demand.

directly measurable since its two components, N_{ii} and θ_i, are themselves directly measurable.

The specific form of the ϕ-function, however, was not specified either by Papandreou or by us. Actually this is immaterial because a wide variety of functions satisfying inequalities (6) and (7) will do. Recalling that $0 < \theta_i$ and $1 < -N_{ii}$ in a profit-maximizing equilibrium, the following function will serve our purpose:

$$k_i = \begin{cases} -\dfrac{\theta_i}{N_{ii}} & \text{if} \quad \theta_i \leq -N_{ii}, \\ 1 & \text{if} \quad \theta_i > -N_{ii}. \end{cases} \tag{8}$$

Using equation (8) it is not unreasonable to say that competition exists if $k \approx 0$ and $\theta_i \approx 1$. Similarly, if $k_i > 0$ and $\theta_i > 1$, there are definite grounds for believing that monopoly or oligopoly elements are present. Finally, if $-N_{ii}$ is very large and θ_i is nevertheless significantly greater than 1, it might happen that $k_i \to 0$ and $\theta_i > 1$. Such a case still looks suspiciously like monopoly-oligopoly to us—at least suspicious enough to warrant careful investigation by the regulatory body concerned.

The $k_i - \theta_i$ classificatory scheme is a rule-of-thumb affair; and most rules-of-thumb are subject to some objection. We believe, however, that the most trenchant criticism involves neither the measurability of k_i nor the usefulness of θ_i. Instead, it is the fact that $k_i \to 0$ and $\theta_i > 1$ may simply indicate a perfect competitor who has attained a position of short-run, but not long-run, equilibrium.

C. E. Ferguson
Duke University

Ralph W. Pfouts
University of North Carolina

BOOK REVIEWS

Fiscal Theory and Political Economy. By James M. Buchanan. Chapel Hill, N. C.: University of North Carolina Press, 1960. Pp. 197. $5.00.

This book consists of eight essays, six of which have been published previously in various journals. The purpose of the collection as a whole is to contribute to the constructive criticism of the traditional works in public finance, which the author thinks is necessary for the discovery and exploration of the foundations of modern fiscal theory that important sub-discipline on the borderline between economics and politics.

This review will consider first the five essays which probably will be of most interest to economists in general. The remaining three essays are somewhat more specialized or technical than the others.

In "The Pure Theory of Government Finance," Professor Buchanan distinguishes between two theories upon which a framework of government finance may be erected, what he calls the "organismic" and the "individualistic" theories. The state, in the former, is considered as a single decision-making unit for society as a whole with ends indicated by some such term as "general welfare" or "social utility." The individualistic theory, which the author considers to be the only appropriate one for democratically organized societies, has a completely different focus—the state has no other ends than those of its individual members, and public services will be extended only as long as the marginal aggregate benefits are thought to be greater than the marginal costs. An important critical contribution of this essay is the analysis of the apparent reasons for the traditional understatement or neglect of the importance of the benefits of governmental activities. The benefit side of fiscal accounts must be restored, in spite of the technical imputative and ethical difficulties involved; for it is only by a comparison of the residual balances of burdens and benefits of individuals that the total effects of fiscal systems can be analyzed and evaluated.

In the third essay, "Social Choice, Democracy, and Free Markets," Professor Buchanan establishes the basis for clearing away some of the confusion in the subject areas by showing the necessity for making two distinctions. The first is that between the problem of deriving a social welfare function from individual orderings and that of testing the consistency of the decision-making processes of society. The second is the distinction between social rationality based on social ordering and the consistency of choice resulting from the decision-making mechanism. Significant conclusions which emerge from the argument are that possible political voting inconsistency is necessary for orderly majority rule in a democracy and that market and political decisions are really comparable only under the unanimity rule.

Essay IV, "Individual Choice in Voting and the Market," compares political voting with ordinary individual market choices. The main discussion is of the following distinctions in the two kinds of processes: (1) the degree of certainty, (2) the degree of social participation, (3) the degree of responsibility, (4) the nature of the alternatives presented, (5) the degree of coercion, and (6) the power relations among individuals. The author concludes with an incisive evaluation of the two processes when they are possible alternatives.

In the fifth essay, "Positive Economics, Welfare Economics, and Political Economy," Professor Buchanan presents his views as to the possible roles of the political economist as both a positive and normative scientist. In doing so, he makes useful distinctions between three types of individual behavior.

The last essay in the book, the eighth, deals with the difficult problem area of fiscal relations between central and subordinate units of government. In this the author confines himself to the problem of "equal treatment for equals" and suggests a provocative type of intergovernmental fiscal adjustment by geographically discriminatory central government personal income taxation. In spite of the obvious political problems it would entail, this proposal deserves serious consideration because of its fresh approach and fiscal soundness.

Essay II, on the Italian tradition in fiscal theory, the longest in the book, is interesting in presenting material not widely known in this country and in suggesting the imperiousness of a re-examination of orthodox public financial policy. In "The Methodology of Incidence Theory," the sixth essay, the author finds that the recent debate in this field is not concluded; much more needs to be done, but an important development has been the application of the theory of general equilibrium to problems not so treated previously. The seventh essay, "Comparative Tax Analysis and Economic Methodology," attempts a synthesis of the indifference-opportunity and the "production-possibility" analyses of the problem of the different effects of direct and indirect taxation. It is successful at least in so far as it points out the limitations of the alternatives.

In spite of the author's somewhat modest pre-

tensions, this is a valuable book, and it should be useful to economists of whatever persuasion in these times when the fisc takes such a large part of national income. Professor Buchanan's tight logic, acuity of reasoning, devotion to basic principles, and uninhibited analytical and methodological capacity are to be commended especially. These attributes of his work have been demonstrated recently in his review article of Musgrave's *The Theory of Public Finance* in this Journal. Specifically, moreover, if any fiscal fast-guns show up on the New Frontier, we all may need the reminder that runs through Professor Buchanan's thought that Wicksell's unanimity rule is a great contribution on the Paretian frontier.

GEORGE M. WOODWARD
Chapel Hill, North Carolina

The Wage-Price Problem. By John M. Clark. New York: The American Bankers Association, 1960. Pp. vi, 68.

The American Bankers Association Committee for Economic Growth without Inflation reports that in studying the wage-cost-price spiral it was unsuccessful in a search for published materials "which would provide a good basis for our educational activities and policy positions. . . . The objective, balanced synthesis which we sought apparently did not exist." It therefore asked Professor John Maurice Clark to try to produce such a document. This little book is the result. No one familiar with the work of Professor Clark will be amazed at certain striking qualities of the book—its broad conception, its compact inclusion and coordination of a large number of facets of the problem, and its careful effort to give each element its proper weight.

Defining the problem in Chapter I, the author faces the question whether "push-up" inflation as opposed to inflation due to a pulling up by aggregate demand, does in fact occur. He declares his conviction that it is both real and important, noting specifically his disagreement with the "Chicago group" as represented by Milton Friedman. Something less than ideal clarity is to be found on the score of the manner in which a higher price or wage level is presumed by Professor Clark to operate upon aggregate demand. He says at this point that it *may* (the reviewer's italics) cause money or velocity to increase; but apparently these "enabling reactions" need not automatically be sufficient to avoid restriction of physical volume of production (p. 5). Evidently the authorities are presumed on the whole to stave off such restriction, and "a secular inflationary trend remains a probability" (p. 9). Moreover, "creeping inflation" tends to become rapid because of a wage-price race, escalator clauses, and purchases to hedge against inflation. And "there is no proof, and can be none, that the price inflation made the country's economic expansion greater than it would have been with a stable price level" (p. 17). But the author is not ready at this point to say what is a desirable price-level objective.

After a short review of the behavior of business men and labor negotiators with respect to prices and wages, Professor Clark presents a basically orthodox statement of what he calls "The Inescapable Arithmetic of Price-Level Stability." Incidentally, some rather impressive information is contained in a chart the title of which conveys the message: (from 1955 to 1959) "Industry Price Increases Were Proportionate to the Excess of Wage Rate Increases Over Productivity Gains." It is clear that a constant price level is preferred, although some inflation is an acceptable price to pay for avoidance of "too much" unemployment. In the end, however, since "the market will tolerate" some uncertain degree of deviation of relative wage rates from equilibrium, "the definition of a non-inflationary wage-price structure remains inexact" (p. 46).

In his "Search for Feasible and Effective Remedies" for inflation the author rejects several popular ideas: the increasing of productivity, as being "not a gadget that can be turned on by pushing a button"; fiscal and credit policy, as not reaching the causes of pushed-up inflation (and apparently for less impressive reasons also—cf. pp. 49–51); and restricting employment so far as to remove the upward push on wage rates. The notion of increasing the force of competition contains some spheres for action, but holds little promise either as to product prices or as to making the setting of wages a competitive act (pp. 54–55). Enforced fragmentation of existing unions appears unthinkable on political grounds and would raise a mass of problems. Feasible action on unions includes some whittling away of coercive tactics. An employer might be protected somewhat more in filling strikers' places; "but the recognition of strikers' tenure. . . . is too firmly established to be dislodged. . . . " Direct public action on prices and wages offers no hope.

What Professor Clark comes out with as a policy is some form of voluntary restraint. He denies the justice of the ridicule implied in the label "economics by admonition": "The problem is one of restraint on self-interest, not its displacement in favor of altruism; and the identification of non-inflationary behavior does not present an insoluble complex of problems, but is quite comprehensible, and capable of being much more widely understood than it is" (p. 63). He would apparently rest upon

a body consisting of "private personnel" not primarily drawn from interest-groups, which would make findings of fact, economic analysis, and implications for policy that would back up appeals for responsible conduct and "may stand some chance of influencing actual behavior" (p. 66).

The problem we are faced with, we may agree, is a desperate one; and it is understandable that Professor Clark should grasp at straws, at least if the book is to be taken as an exercise in policy for the short run only. But it is puzzling to the reviewer that the author does not also take a longer view. On the whole a reader does not get the impression that Professor Clark regards collective bargaining as a good feature of our society—rather, the institution is merely firmly entrenched and may possibly be lived with. It would seem we should know clearly his thoughts on the matter. By a related token, we are given no principles by which to judge whether a union is behaving virtuously: "non-inflationary" behavior is no real guide, for some wage rates should at some times rise more than productivity and some should rise less or fall while productivity rises. If there are good guides available other than simply the outcome a free market would tend to bring about, it were well to be told just what they are and just how unions are to be led to follow them. If so eminent an economist sees none, perhaps one of the most useful things he could do would be to tell us so in unmistakable terms.

CLARENCE E. PHILBROOK
University of North Carolina

A Study in the Theory of Investment. By Trygve Haavelmo. Chicago, Ill.: University of Chicago Press, 1960. Pp. viii, 221. $5.00.

Professor Haavelmo's scholarly work is an important contribution to economic literature in the field of investment theory. Having observed that while economics could present "a neat and elegant theory of 'rational consumers' behavior,' " it could not present such a theory of "demand for investment," he set himself the task of remedying the situation by attempting to discover the relation between "investment activity" and the "really fundamental laws of economic behavior." Such research, although a necessary step in the formulation of a "realistic" theory of investment, might not make possible the prediction of the "actual behavior of investors." That being true, the author's attempt "to indicate more explicitly the reason for the volatile nature of this particular economic variable" may not entirely satisfy those who are seeking " 'the investment equation' as the missing link in modern macro-economics."

This study, a systematic analysis of the investment process, in which the author makes extensive use of mathematics, shows that "there is room for a positive rate of capital accumulation within the traditional framework of general equilibrium analysis." The author demonstrates, moreover, that this answer is not reached simply by a traditional supply-demand schedule which equates demand for investment to the supply of a flow of new capital goods. The main problem of an "equilibrium theory of investment" lies in the dimensional difference between demand, which is for "a *stock* of capital," and supply, which is a flow.

This book has four parts. Part I contains a brief introductory survey of the trends of thought in the theory of investment and indicates the scope of the study, i.e., the "purely theoretical" task of finding out how far "the behavior of investors can be brought under the command of familiar concepts and methods of economic theory." It also includes the author's justification of the use of a non-stochastic theory and deals with the confusing problems of symbols, terminology, and definitions.

In Part II the author proposes to clarify the role of capital in production. He begins his analysis with a discussion of the theories of Böhm-Bawerk, who successfully summed up earlier controversial issues in the theory of capital, and surveys the ideas of Wicksell, Hayek, Frank Knight and others concerning the subject. In clarifying some of the technological aspects of the processes of capitalistic production, in which he considers capital a factor of production, he makes extensive and effective use of non-stochastic, or "exact" models.

Part III deals with the fundamental problem of an optimal rate of growth in a market economy. This includes the theoretical consideration of the accumulation and management of capital. The author relies heavily on the use of non-stochastic models in his analysis of savings and investment in a centralized economy.

In Part IV, Professor Haavelmo examines investment behavior in a market economy. He defines investment "as acquisition of capital goods for productive purposes and investors as those who make decisions in this respect." Referring again to the lack of a basic market theory of investment, and expressing the belief that it would be easy to derive "a formal investment theory in a perfect capital market, with a perfectly rational behavior as its base," he constructed both a simple model of "Dynamic Equilibrium" and a macro model of "Classical Theory."

Professor Haavelmo's carefully devised study in the theory of investment will be rewarding reading for those who are concerned with the relation between investment activity and the fundamental laws of economic behavior. He has attained a high degree of success in answering the central ques-

tions which a satisfactory theory of investment should answer, *viz*: What are the forces that help to maintain the demand for new capital? What are the forces that bring about the supply of capital?

CLAUDE A. CAMPBELL
Florida State University

Fiscal Policy for Stable Growth: A Study in Dynamic Macroeconomics. By Challis A. Hall, Jr. New York: Holt, Rinehart and Winston, 1960. Pp. vii, 311. $5.00.

The coverage of this book is much broader than its title suggests. Although Professor Hall deals particularly with fiscal policy, his appraisal is based upon the dynamic income model he constructs. The reader may find, as has this reviewer, that the independent merits of the model's fiscal implications are less interesting than the aspects of the model which their deduction highlights. From his introductory statement, one feels that Professor Hall would be no more than mildly disturbed by such a reaction. Nor should he be. His is a quality work in a branch of theory still in need of much attention.

Professor Hall acknowledges at the outset that to be of use—in fiscal decisions, for instance—growth models must be capable of relation to the objectives of society. Further, he admits that the present volume goes only part way in making his model practical. While this book provides a qalitative analysis of dynamic forces, it remains for a later work to assess their empirical relevance. Only then will it be worthwhile to consider seriously his policy implications. Let us hope that such a quantitative formulation is not long in forthcoming.

Professor Hall's structural system merges effectively James Tobin's "aversion to risk" theory of asset preference with dynamic capital, money, and debt functions, and, notably, with a production function that allows for variable capital-to-output and capital-to-labor proportions. Tobin's theory is extended to monetary assets and, under the influence of modified forms of Tobin's geometric representations coupled with careful analytic expositions, the reader is led easily to the author's conclusion (which he has announced in advance) that this extension is a "substantial improvement" (p. 6) of the orthodox (Keynesian) rationale. Risk and return on wealth become tied functionally to stocks of capital, of money, and of bonds. Moreover, in reflection of the model's inherent dynamic quality, stocks at a given time become determinants of subsequent increments in that stock, this dependence most clearly and convincingly demonstrated with respect to capital. It is this dependence which is at the heart of the growth problem. The presence of unemployed workers imposes upon the minds of the nation's wealth owners no necessary dissatisfaction with their portfolio allocations. The rate of change in capital stock required to absorb the increments in the labor force need not be matched by the rate of change in the desire of wealth holders to invest. Lacking such balance, and accepting full employment as a social objective, policies must be considered which can induce the formation of the needed capital.

Variations in the stocks of debt and money being subject in large degree to government budget and money policies, Professor Hall treats the influence upon wealth holders' preferences for capital of various tax rates, of budget surplus and deficit policies, and of open market operations. The interdependence of budget policy and of open market operations is established; outlined also is the impact of structural changes such as in depreciation allowances and loss offsets upon capital rent, preferences for bonds, employment, transactions demand for money, commodity and labor prices, capital accumulation, and, indeed, upon each of the mutually dependent variables of the system. One cannot mistake the sequence of effects which an adjustment in a single exogenous variable like the tax rate sets into motion. And, one should not. This interdependence is the central characteristic of the model and, this reviewer believes, of the capitalist economy.

Those who have attempted to employ aggregate growth models in long range economic projections will look anxiously but with little optimism for a functional relationship linking population growth to the structural system. As in all other models with which this reviewer is familiar, Professor Hall's model evades this fundamental relationship. He proceeds on the basis that population growth is ". . . determined by time . . ." (p. 55) and that ". . . the supply of labor depends in a general way on the money wage rate, the tax rate, and time" (p. 20). But, can we not and must we not do better than this? Demographers point with increasing frequency to a dependence of population growth upon rates of change in economic aggregates, to a responsiveness of birth rates to "prosperity" and "recession." Possibly such a function can be defined in the quantitative test to which Professor Hall's model must be subjected.

Important though the practical evaluation, its absence should not be allowed to detract from the contribution to growth theory which Professor Hall makes. His is a work worth testing. It is a formulation that will be reread by specialists in the subject. It is a presentation that cannot help

but leave the non-specialist but understanding reader—the graduate student in economic theory, perhaps—with an appreciation of the interdependence of economic variables and of the compelling need for a complete theory of asset preference.

HENRY THOMASSEN
Georgia State College

Investments: Analysis and Management. By Douglas A. Hayes. New York: Macmillan Company, 1961. Pp. vii, 508. $7.50.

This is a revision of Professor Hayes' earlier *Appraisal and Management of Securities* published in 1956. Professor Hayes says that there seem to be three major dimensions of an academic training in investment analysis and management: first, analyzing the major characteristics of security types and their related advantages and disadvantages from the investors viewpoint; second, understanding the techniques pertinent to the appraisal of specific securities of companies which are most likely to be of interest to investors; and, finally, training in portfolio management. The author devotes 84 pages to the first of these objectives, 400 pages to the second, 78 pages to the third, and also 28 pages to discussing the mechanics of transferring and holding securities. The major emphasis, thus, is on the analysis of individual securities.

The content of courses in investments has been in process of re-evaluation in many business schools. For example, Frank C. Pierson in *The Education of American Businessmen* (McGraw-Hill, 1959), one of the Carnegie series in American education, says: "In most undergraduate investment courses the analysis of securities plays an important part and is popular with students. The data upon which this analysis must be based come from published financial statements. The validity of this approach may be challenged. Professional analysts today base their judgments primarily on analysis of such factors as quality of management, quality of the research program, and the market for the products, before giving weight to financial analysis. But data on which to base these judgments are not available to the general public, including the graduate student and the teacher in finance. . . . These characteristics of the materials mean that the average student does not have the data, skill, and judgment to arrive at useful conclusions, and the resulting unfortunate tendency is that interest develops on a speculative rather than on an analytical basis" (p. 405).

"If security analysis is eliminated from the course as unsuitable for undergraduate work, there remain the problems of risk and risk bearing and of portfolio policy. Analysis of these subjects requires an understanding of economic forces that is probably beyond the background and maturity of average undergraduates. Consequently, it appears that the subject of investment with all its subtleties and ramifications should be reserved for the graduate curriculum. In short, the traditional undergraduate course in investments may encourage false confidence and careless investment rather than give sound instruction in handling funds" (p. 406).

"One topic usually included in graduate investment courses but omitted from the list above is security analysis. As already stated, this topic presents a problem to the instructor, because only part of the necessary data is available and some of this may be misleading. A feasible teaching device based on broader concepts than most now in general use has yet to be developed. A new approach might involve thorough industry studies, as often made now, but with an attempt to observe patterns in financial data and to relate them to economic factors. Mathematical and statistical processes might come into play here as well as psychological interpretations" (p. 415).

It seems to this reviewer that Professor Pierson's formula for evaluation of stocks (i.e., dependence on professional security analysts who, in turn base their judgments on "quality of management," "quality of research," and "the market for the products") is just like handing medicine back to the witch-doctors. It may well be another symptom that we have reached an advanced stage in the greatest bull market in history. However, Professor Pierson does have a point when he emphasizes the highly complex nature of the investment decision. A text in investments must reduce the complexity surrounding the problem to some meaningful order. Two questions which must be answered are: (1) what are the underlying rules for making reasonable choices among securities including both bonds and stocks, and (2) what are the dimensions of the problems to which these rules apply? The rules can be stated only in terms of probabilities and their justification must rest on observed regularities in the data—not on individual instances.

Presumably securities are analyzed to help the investor to form reasonable beliefs about probable future returns including capital gains. Professor Hayes develops explicit and implicit rules for forming reasonable probability beliefs through the use of many concrete examples. However, he gives few, if any, illustrations of the results which might be expected from following such rules. For example, the mutual funds engage in a large amount of informed investment research; yet few,

if any, of the largest funds have out-performed the market. Why is this if investment analysis is so useful? Professor Hayes has no answer (nor, indeed, does he have the question)—rather he says it is not necessary to compare performance against the averages "assuming that the investor desires the services of an investment company."

Professor Hayes neither attempts to test his rules nor does he make any effort to give a coherent general discussion of the broad background factors which determine market valuation. He does not compare stock returns with bond yields over the years or give a systematic discussion of the relationship of stock returns to earnings, dividends, or industrial activity. Instead he concentrates almost entirely on comparing one stock with another. Such detailed comparisons have their place but make a doubtful basis for a rewarding investment course.

HENRY A. LATANÉ
University of North Carolina

American Agricultural Surpluses and Foreign Economic Development. By Walter Krause. Iowa City: Bureau of Business and Economic Research, State University of Iowa, 1960. Pp. 36. $1.00.

This publication is a remarkably lucid survey of a thorny problem facing the American policy makers in Washington—i.e., the potential conflicts of interest between the State and Agricultural departments resulting from our farm programs of the post-War II era. It was written for an intelligent laymen's audience, but has "a message" that should merit the attention of all who profess concern about the U. S. agricultural surplus problem and/or that of foreign economic development. The content, while clearly stated (and organized with excellent charts), is scholarly and thorough with a significant orientation toward the vital matter of "what to do."

Professor Krause's study examines the question of the extent to which American agricultural commodities can prove helpful in foreign economic development problems. He details his argument by briefly outlining the "origin of surpluses" and the legislative enactments that have evolved to deal with them. This is followed with a candid discussion of the pros and cons of using our farm surpluses (via Section 402 of the Mutual Security Act and Public Law 480) for "foreign aid" purposes. Recognizing, with considerable elaboration, the major economic arguments in favor of farm disposal programs—the freeing-up of workers for use in non-agricultural pursuits, provision of raw materials for industry and goods to counteract inflation, etc.; he also weighs the con arguments—competition with local producers, distortions of trade, balance-of-payments implications, etc.—and then states: "Development efforts abroad have been helped by receipt of American agricultural surpluses, but *not without* serious adverse repercussions arising as an offset to any benefit realized" (p. 30).

In view of the likely repercussions in the recipient countries, Krause concludes that not much more can be done in the way of commodity disposal during the near-term future without obvious injury to U. S. foreign-policy objectives. With little prospect for a "new" farm program (entailing income payments or production controls), a revamped disposal framework appears to be mandatory. This, it is suggested, could have two facets: (1) a larger over-all aid program—making it easier for our commodities to be put to good use, or (2) utilization of international agencies—ostensibly the United Nations and a "Food for Peace" program, which, it is felt, would provide the United States with a windfall gain in the "cold-war" propaganda battle.

In any event, recent experience indicates that the following cogent remark is in order: "Many Americans are nurtured on the principle that 'it is more blessed to give than to receive'; *but* in the realm of agricultural surplus disposal operations, the fact of the matter seems to be that 'it is harder to receive than to give' " (p. 36).

J. D. DEFOREST
Denison University

The Federal Reserve Discount Window: Administration in the Fifth District. By George W. McKinney. New Brunswick, N. J.: Rutgers University Press, 1960. Pp. xvii, 157. $4.50.

This small volume is the second in a new Rutgers Banking Series of books in the field of American banking which developed out of research done at the American Bankers Association's Stonier Graduate School of Banking, held each year at Rutgers University. Its author, presently an officer of a large New York City commercial bank, was for a number of years an official of the Federal Reserve Bank of Richmond. In that capacity, he was closely involved with the Bank's discounting operations. He has now described the technical details of those operations with great clarity; and in the process, he has also set forth and commented on the principal tenets of the Federal Reserve System's discount "philosophy."

Both tasks were well worth doing. The Reserve Banks' discount windows were the only avenues of member-bank access to Reserve Bank credit provided by the Federal Reserve Act of 1913. The experience of the 1920's and early 1930's,

however, demonstrated the inadequacy of the discounting (or in those days "rediscounting") mechanism operating alone. Thus the banking reform legislation of the depression years broadened the scope of central bank action to include variations in reserve requirements and open market operations, and these new tools subsequently overshadowed discount policy as methods of monetary policy influence. Only since the Federal Reserve-Treasury accord of early 1951, and in substantial numbers only since 1955, have member banks queued up once more at the Reserve Banks' discount windows.

In recent years, however, the Federal Reserve discount operation has again assumed substantial significance both as a source of additional reserves to member banks and also as an avenue of monetary policy influence by the central bank. Experience in the "tight money" periods of 1955–1957 and 1958–1960 tells us this clearly; and that experience appears also to imply the shape of things to come. Thus the member banks have had to reacquaint themselves with the principles and procedures of borrowing from the Federal Reserve Banks. The Reserve Banks, in turn, have had to review their overall monetary policy objectives, in order to take into account the effects of active member bank borrowing. It is high time now for students of monetary matters, and interested members of the general public as well, also to reorient themselves to the new role of the discount window.

Close study of Mr. McKinney's volume provides an excellent refresher course in discounting even for old Federal Reserve hands; it should provide much that is new and of interest to those observing from a farther remove. The history of discounting is quickly summarized; the questions of when banks borrow, which banks borrow, and how banks borrow are treated in adequate detail; the slippery problem of "eligibility" of paper is firmly grasped; and current Federal Reserve discount policy and administration are knowledgeably discussed.

It is hard to find fault with such an admirably concise job of work. Nevertheless, I shall enter one complaint. Mr. McKinney gives much emphasis to the necessity for what he calls "a constant discount policy in boom and bust," and I would agree with him that such constancy constitutes virtue. An equally important dimension of constancy—*regional* constancy of discount policy—appears to his notice, however. The question of the variations in the discount policies of the various Federal Reserve Banks has never been thoroughly explored, but it needs to be. If some Banks operate "loose" discount windows and others "tight" ones, monetary policy may have an uneven, and undesirable, regional impact. Such geographic inconstancy *at a given time* may quite possibly be just as damaging as the inconstancy *over time* that Mr. McKinney properly deplores.

CLIFTON H. KREPS, JR.
University of North Carolina

Southern Tradition and Regional Progress. By William H. Nicholls. Chapel Hill, N. C.: University of North Carolina Press, 1960. Pp. xiii, 202. $5.00.

This book is an outgrowth of Professor Nicholls' presidential address before the Southern Economic Association in November, 1959 (Jacksonville, Florida).

The principal argument of the book is that Southern tradition (or values) is primarily responsible for the lack of relative economic progress in the South and that Southerners must, therefore, choose between progress and tradition. Nicholls makes it quite clear that he prefers economic progress (i.e., a rise in real per capita income) over the maintenance of tradition and that his choice is a value judgment.

The necessity of making a choice results from the nature of and possible solution to the problem of poverty in the South. According to Nicholls, poverty in the South is largely concentrated among urban Negroes and farm families, both Negro and white. If the incomes of these groups are to be raised sufficiently, an accelerated rate of industrial-urban growth is required to absorb underemployed labor and to provide the farm capital needed to raise agricultural productivity. Nicholls recognizes an increased rate of population outmigration as a possible alternative to urban-industrial growth, but rejects this as being an improbable solution or one that will not occur quickly enough.

This economic analysis is the result of Nicholls' research (cited p. 201) on the problems of the Upper East Tennessee Valley area. The author observed further that this area had experienced a rate of industrial-urban growth that exceeded the rest of the South even before TVA. In searching for a plausible explanation for this phenomenon, "he was forced to turn to largely noneconomic factors" and "concluded that the economic progress of this area (the Upper East Tennessee Valley) was in significant part the result of its failure to share with other areas most of the principal tenets of Southern tradition" (p. ix). The key elements of this Southern tradition are identified as "(1) the persistence of agrarian values, (2) the rigidity of the social structure, (3) the undemocratic

nature of the political structure, (4) the weakness of social responsibility, and (5) conformity of thought and behavior" (p. 15).

All of these elements are inter-related. Agrarian values result in anti-industrial attitudes which in turn support the rigid social structure that historically emerged from a society dominated by the aristocratic planter. The rigid social structure has been maintained by a vigorous appeal to white supremacy and thus has resulted in an undemocratic political structure that is dominated by rural whites. Further, the socio-political leadership of the South has failed to assume the appropriate attitude toward, and responsibility for, public education and industrialization and outmigration. Finally, such a society demands conformity and inhibits intellectual progress.

Throughout his analysis, the author is aware of two obvious questions: (1) why did the South fail to overcome the retarding influences of an agrarian society when such was not the case (at least to the same degree) in the rest of the country, and (2) is not the maintenance of Southern tradition a result as well as a cause of the failure to achieve economic progress? The answer to the first question boils down to the early establishment of an aristocracy whose ideals (*noblesse oblige*) were eventually corrupted, slavery, and finally the dominance of the race issue. The answer to the second question is "yes"—the Southern tradition is a result as well a a cause of the failure to achieve economic progress. The following quotation illustrates:

> Because of the South's laggard industrial-urban development, therefore, strong elements of the region's traditional status society have persisted to the present day. At the same time, the rigidities and segmentative elements which remain in the Southern social structure have seriously interfered with further regional economic progress. (Pp. 61–2).

Nicholls also admits of the "hen and egg" problem when he opens his discussion of the persistence of agrarian values (p. 18).

In admitting that the failure to industrialize has been in part, at least, responsible for allowing Southern tradition to persist, the author produces a certain amount of frustration for economists. What are the "non-tradition" factors which account for the lack of economic progress? To what extent does tradition actually affect economic progress? These questions are not answered. Professor Nicholls is certainly correct that the South will have to choose between tradition and progress, and we are indebted to him for having made this clear. However, it would be a mistake to assume that rapid economic progress would immediately follow the abandonment of Southern tradition.

Professor Nicholls has performed an excellent service in pointing up the problems of noneconomic barriers to economic progress in the South. It is hoped that further analysis will enable us to assess the relative importance of the economic and noneconomic factors.

HOWARD G. SCHALLER
Tulane University

Fights, Games and Debates. By Anatol Rapoport. Ann Arbor, Mich.: University of Michigan Press, 1960. Pp. xvi, 400. $6.95.

The Strategy of Conflict. By Thomas C. Schelling. Cambridge, Mass.: Harvard University Press, 1960. Pp. ix, 309. $6.25.

The two works considered here belong together although one was written by a professor of mathematical biology and research mathematician at the University of Michigan's Mental Health Institute and the other by a professor of economics at Harvard University. The common link is their concern with human conflicts and the attempt to find methods for analyzing and resolving them. In their analyses the theory of games of strategy plays an important rôle and both authors offer various comments and suggestions. As far as resolution is concerned, there is none—unless it be the search for proper behavior in conflict situations. If it were more than that (or even that much), the world would probably have become aware of their new ideas immediately!

Regarding Rapoport's book, it is hard to imagine a social scientist who would not profit greatly from reading this work, whether he be a newcomer to game theory or an expert in this discipline. Game theory is expounded in a simple and clear manner and many novel applications are given. The book falls into three parts: the first describes the mathematical methods developed by L. F. Richardson describing an arms race and the nature of ensuing conflicts. They were based on impressive studies extending over several decades and are unquestionably of high interest, although it is only recently that much attention is being paid to them. I do not want to deny the value of Richardson's method, but it is doubtful that we have in it a really workable model of human conflict. It would lead too far to go into the mathematical reasons for this opinion. It is also clear that Rapoport attributes to this development much less significance than to game theory which has at any rate a totally different mathematical structure, not being based on differential equations which are the essence of Richardson's approach.

The second part of Rapoport's book deals with

game theory in a thoroughly competent manner. The exposition of this difficult matter is clear and is accessible without special knowledge of mathematics. Game theory is presented in its essential outlines, well beyond the zero-sum two person case, showing therefore the phenomenon of collusion, the formation of coalitions, the case in which all participants may gain or lose together either fixed or variable sums, etc. The criticisms offered by Rapoport are worth considering, though I would register some doubts as to whether the remarks directed against the notion of a solution and its relevance for social situations are really relevant. The remark that in the von Neumann-Morgenstern theory communication is taken for granted—which it should not be—is in part out of place, since we have introduced such notions as signaling, inverted signaling, etc., while on the other hand we have merely made explicit the assumption of "complete information," i.e., that all participants can make all necessary computations. This is far-reaching, but all present and past economic theory has made this assumption implicitly (e.g., Walras, Pareto and successors). The fact that we have brought this out into the open—though carefully distinguishing it from "perfect" information, and even allowing for the cases where a player may not be fully informed about himself—has introduced into the discussion a problem that will have to be tackled in steps, but which is of considerable interest. Yet it should be recalled that game theory has shown that certain phenomena, such as discrimination, also arise when there is complete information, which, of course, means that they do not arise only when there is incomplete information—a widely held belief. Rapoport also discusses Schelling's criticisms of game theory and easily shows that they are weak or even in some cases the result of gross misunderstandings. In summa, the author's knowledge of the meaning and rôle of a mathematical model and his realization of the power of an important theorem, such as the minimax theorem distinguishes him from other critics, such as Schelling, who have no equivalent mathematical experience.

Part three draws heavily on the psychiatric experience of conflicts and their resolution. These chapters are exceedingly interesting and offer much food for thought; they are, of course, several steps removed from the mathematical concepts described in the earlier chapters and thus offer an inducement for comparison. Their study will reveal how difficult it is to make the transition from an essentially intuitive and heuristic argumentation to the formal mathematical analysis of a field of inquiry. The concluding considerations about collectivism and individualism are very much worth reading—in spite of the countless papers and books dealing with these subjects that one has encountered in one's life. This is largely due to the careful semantic treatment which the author gives the arguments pro and con.

It is much more difficult to review Schelling's book and to avoid doing him an injustice. The book consists of a series of not very closely connected papers of different origin in time and of varying purpose. The author states that they deal with the "theory of bargaining," "theory of conflict" or "theory of strategy." "Strictly speaking, the subject falls within the *theory of games*, but within that part of game theory in which the least satisfactory progress has been made, the situations in which there is common interest as well as conflict between adversaries" (p. v.) As it happens several hundred pages of von Neumann-Morgenstern's *Theory of Games and Economic Behavior* (1944, 3rd edition 1953) deal precisely with those situations. The theory developed there certainly needs further development, and possibly radical change. But one will look in vain in Schellings's book for one single new theorem to be added to, or to replace, those given there. Indeed, one wonders how well the author is acquainted with that body of thought in view of the many misunderstandings and misstatements scattered throughout these essays. Yet Schelling quotes some later, specialized developments and sometimes makes cogent remarks about various points of issue. It would take an inordinate amount of space to correct his many mistakes since some touch the very essence of the theory he wishes to advance. The book clearly brings out one feature by which it differs from Rapoport's: in that work, as was noted above, a mathematician was writing clearly, and verbally about mathematical theory; here a non-mathematician tries to improve an essentially mathematical theory. Such an attempt is by no means absurd—it could, for example, consist of questioning an axiom and suggesting another one in its stead. This is, however, exceedingly difficult to do since it frequently requires the creation of new concepts and the introduction of new types of problems with which the existing theory could not cope. As it is, Schelling's book abounds with interesting examples, some of which are of vital interest in the study of bargaining or military deterrence. The attempt to put them into a framework taken from game theory is laudable, even if it does not always succeed. Thus the game theorist will profit from these cases and the theory may actually be developed further when they have been subjected to analysis.

It is surprising that poker is not dealt with, because it has so many elements that Schelling

wishes to stress—especially bluffs and threats—and poker has been analyzed by von Neumann, Morgenstern and others at least in some simple forms. Here is a true challenge. Unfortunately bluffing does not seem to be properly understood by the author, judging from his references to this basic phenomenon of political life. In fact many of his most interesting examples involve bluffing; consequently it would have been novel for the reader to learn—from game theory—that bluffing is an essentially defensive measure which immediately places the notion of a "threat" in a different light. And threats are what Schelling is very much concerned about.

Besides outright misunderstandings of game theory, there are several passages which I fail to understand at all. For example, the opening of Chapter 5 on page 119 is completely unintelligible. The difference between a game in the extensive and in the normalized form is missed throughout the book and this confusion affects page after page; hence the use of the very words "strategy" and "move" seldom conforms to general usage and thus contributes towards making the reading of this book so very difficult. As an illustration of the superficial manner in which game theory is treated, I refer to Schelling's two references to a "real estate example," allegedly found in *Theory of Games and Economic Behavior*. No such example is given there; it was invented by another economist giving a popular version of the contents of our book. While this is perhaps not very important, one is puzzled nevertheless and cannot avoid the conclusion that Schelling has not gone as deeply into the theory he so severely criticizes and aims at "improving," as both efforts would demand.

It has been observed above that a mathematical theorem is exceedingly difficult to challenge. This is certainly true of the minimax theorem which puts an end to the "I think he thinks that I think he thinks . . ." type of reasoning in which Schelling is still so deeply involved. A mathematical model, however, can always be invalidated by pointing up some factor left out of account and by insisting that this factor cannot be neglected. Anyone has a right to reject models and theories on such grounds of irrelevance and it is possible that they ought to be rejected—at least for certain purposes. It is not even necessary to replace them immediately by another, possibly also mathematical theory. But if the mathematics have been properly and significantly used, such replacements will be very difficult to carry out. We have reason to believe that game theory has brought into being an entirely novel way of thinking about problems of conflict and cooperation. The vast expansion of the literature, running to hundreds of items, bears witness to this fact. To overthrow or to advance the basic theory therefore requires a different effort than is presented by this book. Yet it has its merits; it widens horizons and shows once more the immense complexity of the social world. On the other hand the book deals to a large extent with problems of defense, with deterrence, arms control, etc. These touch on our very existence and should be studied in a manner which reduces to the barest minimum misunderstandings of the nature and capability of the tools that can be used in their analysis. In this sense, the many misunderstandings about game theory to be found in this book would appear to be almost dangerous, should they have an influence upon policy making.

OSKAR MORGENSTERN
Princeton University

Accounting and Business Fluctuations. By Delmas D. Ray. Gainesville, Ga.: University of Florida Press, 1960. Pp. xii, 184, $6.50.

For almost forty years writers have been saying that accounting methods accentuate business fluctuations. At least one economist, Fritz Schmidt (1927), believes that "wrong accounting methods" constitute the *primary cause* of business cycles. The accounting practice most frequently questioned is the failure to recognize the effect on expense and net income of changes in the value of the monetary unit in which income and expense transactions are measured and reported. Income dollars of the current period are "matched" with the larger (or smaller) expense dollars of a past period. In a period of rising prices this results in an overstatement of income, leading to management and investor decisions which result in still more inflation. Conversely, in a period of declining prices, there is an understatement of income, leading to unwarranted retrenchment and further deflation. The main sources of error are depreciation computed on the basis of original dollar cost and cost of goods sold determined by the first in, first out cost method.

This book is a report on an inquiry into this theory, that accounting accentuates business fluctuations:

"The primary object was to try *to determine if accounting, as generally practiced, is capable—given certain assumptions—of affecting business decisions relative to investment, dividend policy, wages, and prices in such a way as to accentuate business fluctuations on both the upswing and the downswing, as is rather frequently alleged, and to determine if the underlying assumptions seem realistic, given the institutional framework within which modern business operates.*

At the very beginning of his discussion the author expresses doubts as to the validity of the theory. He characterizes discussions of the subject as "very naive as to assumptions," "based on a priori reasoning," "interwoven fact and fancy."

He grants that "accepted" accounting methods do produce different net income amounts—larger on the upswing of the cycle and lower on the downswing—than would methods that adjust for changes in the value of the dollar. (Implicitly he accepts the proposition that "adjusted" income amounts would be superior for decision making by management, investors and others.) But he questions that accounting facts about the past influence businessmen in their investment expenditures or consumers in their decisions between saving and spending.

The author has made an intensive search of the literature of the field for evidence related to the question at issue. Not all of the evidence collected is relevant. Most of it is based on "authority"—on expressions of opinion; there is very little empirical evidence. A large number of quotations are too frequently substituted for logical analysis. Too many of the references are old and there are no references to many important recent works in this subject area. For example, how could any writer on this subject afford to ignore Ralph Jones' report on his price-level study and analysis of the financial and operating statements of four corporations, for periods varying from eleven to twenty-four years ending in 1951? (The results were published in 1954 and 1955, in three volumes, by The American Accounting Association.) The dates of the references would indicate that the major part of the research must have been done prior to 1955; recent "updating" for publication seems to be spotty and incomplete.

From the evidence presented (supplemented by important recent evidence not covered by the study) the reviewer finds himself arriving at substantially different conclusions than does the author. One gets the impression of listening to only one side of a debate. The author seems determined to prove that accounting methods do *not* affect business fluctuations—or at least that it can't be shown that they do. He is willing to grant that accounting information which does not reflect the effects on cost and income of price level changes *would* accentuate business fluctuations *if* this information influenced substantially capital investment decisions of businessmen and consumer decisions on saving versus spending. But, he stands by his original conviction that businessmen, investors and consumers are not influenced by reported past profits.

It is logical, of course, that businessmen should base their decisions on estimates of the future rather than on facts about the past. It has been demonstrated, however, that many of them do not. For example, practically all rates of return are based on past costs and income. But even when they do develop estimates of the future, most of these estimates are not *independent* of reported accounting figures of the past, as the author contends; rather they are derived from these past figures adjusted to reflect *known* differences between past and future periods. It follows that unrecognized errors in past figures are carried forward as errors in future estimates derived from these figures, and that many of the decisions of businessmen are based on amounts that still contain the distortions arising from the failure to reflect the effect of price-level changes on expense and income. For example, it is not probable that the management of Armstrong-Cork made the same decisions in the years 1941–1951 that they would have made if they had known that the return on investment (adjusted) was 4.5% instead of the reported 8.3%, that dividends paid represented 89% of net earnings (adjusted) rather than the reported 56%, and that retained earnings at the end of 1951 (adjusted)was $6½ million rather than the reported $39½ million. (Ralph Jones, *Case Studies of Four Companies*.)

The evidence presented does not seem to warrant the author's conclusions:

(1) That businessmen's investment decisions are based primarily on estimates of demand with little consideration to probable net income, and that the estimates of net income which *are* used are derived independently of reported cost and income of past periods.

(2) That costs are quite generally ignored in pricing—and that the costs that *are* used are derived independently of reported costs of past periods.

(3) That reported income has little influence on cash dividends and on the results of wage negotiations—and therefore little influence on consumer demand.

(4) That the investor's willingness to supply capital is independent of reported net income.

(5) That the investor's willingness to spend is not influenced by reported profits and market prices of stock.

The reviewer finds himself in substantial disagreement with all of the foregoing conclusions.

In his final paragraph the author insists that his intent was neither to defend nor to condemn conventional accounting methods, but rather to evaluate the results that have been attributed to them. In spite of this disclaimer, this book stands as a severe indictment of accounting. The in-

evitable implication of the author's conclusions would seem to be that accounting information reflecting only original dollar cost is not accurate, but that it is *harmless* because no one uses it in decision making. His failure to prove this last contention—his major thesis—only serves to increase the severity of his indictment of present accounting practices and to cast accounting as the "villain of the piece," with a major role in accentuating business fluctuations.

Despite lack of agreement with the author's conclusions, the reviewer enjoyed thoroughly his study of this thoughtful and challenging book, and recommends it highly to all readers interested in the adequacy of conventional accounting and reporting, price level changes, or the causes of business fluctuations.

WILLARD J. GRAHAM
University of North Carolina

Economic Consequences of the Size of Nations. Edited by E. A. G. Robinson. New York: St. Martin's Press, 1960. Pp. xxii, 447, $10.00.

The International Economic Association's conference in Lisbon in 1957 concerned itself with the highly important subject of the relation between the size of nations and their economic prosperity. The symposium was obviously stimulated by the active consideration by many governments of proposals for economic integration, common markets and free trade areas. The arguments in favor of these institutional arrangements presuppose that "there are economies of scale which are not exhausted within the limits" of the size of existing nations, "but which could be achieved within the limits of the size of nations, or of trading areas, which it might be practicable to create." The conference therefore undertook to discuss the validity of the arguments in favor of measures to increase the size of nations which would permit the achievement of economies otherwise unattainable.

The volume under review contains the nineteen papers on various aspects of the subject presented at the conference by the participating economists. Professor Robinson has contributed a very useful Introduction which provides a synthesis of the papers and an assessment of the major issues which are discussed. In addition, there is included a supplement of an invaluable 105 page "Report on the Proceedings," which summarizes the debates on the various papers.

What are some of the conclusions of the conference? Summarized briefly and crudely, its apparent consensus (reached on the basis of studies of the size and efficiency of large and small nations) is that the importance of scale has been exaggerated, as it is only one of many factors that influence productivity. In the case of the United States, a rich large market *par excellence*, economies of scale are only a part of the explanation of its remarkable efficiency. Probably of greater significance have been its exceptional natural resources, the very high level of individual efficiency, and "the high general *tempo* of work that it permits." On the other hand, the experience of Switzerland and Belgium shows that their productivity has not been adversely affected by their small national markets. "Switzerland has managed to secure the necessary economies of scale in her chief manufacturing industries by a very heavy reliance on export markets." And while Belgium's exports do not permit the advantages of the economies of scale, "individual efficiency and hard work, allied to economic policies . . . have allowed her to benefit as far as possible from foreign trade" and achieve a high level of per capita income.

Economies of scale are not unlimited for most countries, however, Though small and poor countries of 10 to 15 million people can have a few enterprises which enjoy the full possible technical economies, in general they are "too small to get all the technical economies available." Nations of 50 million people can achieve "most of the major industrial economies of scale" because their pattern of industrial activity and structure differs from smaller countries: they normally have certain industries (aircraft, automobile, etc.) which the smaller countries rarely possess; their industries are less diversified and to a large degree specialized, and their markets are on the whole competitive. Nevertheless, since the national markets of the smaller as well as of larger countries (e.g., Italy) are too narrow for taking full advantage of economies of scale in many industries, external trade provides for them an "escape from the penalties of smallness"—but at considerable political and economic risks that threaten them with instability. In order to remove such handicaps (i.e., political intervention, tariff changes, convertibility of currency, etc.), governments have been led to seek solutions for freeing trade through various international arrangements.

Apparently, there was disagreement among the conference-participants on the appropriate types of solution to be adopted by governments: continental European economists in the main favored the creation of customs unions or other regional systems for the encouragement of mutual trade, while the others (e.g., English), fearing the trade diverting aspects of customs unions, considered as "fundamentally the more desirable solution" the attempt provided by GATT to create progressively a relatively free trade world. Regrettably,

however, the conference did not explore fully the economic advantages (or disadvantages) of larger integrated units, or what further significant economies of scale could be achieved by integrating countries of 50 million people; but the present symposium offers a point of departure for further study of the subject of the "economic consequences of the size of nations."

ARTHUR LEON HORNIKER
Washington, D. C.

International Order and Economic Integration. By Wilhelm Röpke. Dordrecht, Holland: D. Reidel, Wilhelm Röpke. Dordrecht, Holland: D. Reidel, 1959. Pp. 276. $6.00.

In this book, a translation of the German-language edition which appeared in 1954, Professor Röpke discusses the major political and economic issues confronting the world in the middle of the 20th century. His method is that of the political economist or, more accurately, the moral philosopher. He does not confine himself to economic analysis, nor indeed is there much technical economic analysis in this book.

Röpke writes with great vigor and eloquence. He is in fact preaching to the world in this book, exhorting it to return to the true path. That path is best exemplified by the political and economic environmnt of the pre-1914 world. He forcefully argues that society must choose between restoration of that era, difficult as it may be, and disaster.

The great danger lies in centralization of power, particularly political power. Röpke consistently favors measures which lead to decentralization of political power (he especially admires the Swiss form of federalism), and he is reluctant to see any tasks transferred from smaller to larger units. His advocacy of "internationalism" is thus of a special kind, in which national units whose own powers are small and strictly circumscribed somehow join together to maintain peace and order. How this is to be accomplished remains vague, but Röpke consistently urges that excessive national power ". . . should be abolished and not *transferred* to a higher geographical unit" (p. 108).

Prescriptions for economic policy are clear and forthright. Policies should be adopted to facilitate the operation of competitive markets: the rule of law, stable currencies, separation of government and the economy, full convertibility of currencies under aegis of a gold standard, elimination of tariffs and exchange controls, and elimination of monopolistic power in commodity and labor markets are all endorsed. Röpke especially dislikes exchange control, all forms of governmental planning, and, curiously, fluctuating exchange rates. He insists upon the gold standard as an absolute necessity, and he comes close to labelling all opponents of a gold standard as "collectivists" (pp. 252–53).

In a sense this volume contains two books instead of one, and the author never reconciles the sharp conflicts between them. In the first book, Röpke advances his ideal of world order and defends it against all criticism. The environmental setting is not specified, but it is assumed to be such as to permit this system to exist. Here his arguments are most forceful and confident; the opposition is utterly demolished. In the second book (which is actually intermingled with the first), Röpke takes explicit cognizance of the communist bloc, nuclear power, war and recovery from war, and other realities policy must deal with. Here his arguments are drastically altered, and he is even found to be espousing opinions which he had attacked in other passages (where he was dealing with Book One). The book is full of examples of this dualism, but space permits us to mention only a few.

First, much time is spent in making fun of the concept of a "dollar shortage" in the post-World War II period, and even the idea of an adverse balance of payments is ridiculed. Yet a few paragraphs later Röpke writes: "We can certainly talk of 'dollar shortage' in the sense that a politico-social catastrophe might occur if no help is given in a certain case. This was undoubtedly the case in many European countries after 1945" (p. 198). In another place, after having vigorously criticized those who question the doctrine of comparative advantage, he says there is after all a "grain of truth" in these arguments, and points out that periods of transition involve frictions, disequilibria in the balance of payments, and difficult adaptations to changed circumstances (p. 183). Not even a Balogh would ask for much more than this.

Röpke is eager to reduce the power of national governments, and in some places he will brook no argument against this course. But he recognizes that his world of decentralized federal unions cannot co-exist with the "communist imperium," and this alters the situation. Large military budgets are necessary, although Röpke elsewhere opposes large national budgets. Further, in dealing with this collectivist "foreign body" in the world economy, the liberal world must use the methods of collectivism. It must apply the "methods of enforced bilateralism" and utilize a variety of "short-time makeshifts." Röpke's vision of an ideal world often founders on this ideological foreign body. He wants the communist bloc to go away, but he has no positive proposals to achieve

this end, and he resists (in Book One) the view that the very existence of this bloc limits the ability of the free world to make some of the choices he urges upon it. This accounts for some of the dichotomy between Books One and Two. [Incidentally, the United States is blamed for having "incomprehensively" (*sic*) allowed China to fall to communism (p. 60).]

On international organizations, Röpke first approves, then grows skeptical. He ends up rejecting all specific proposals discussed. Although "on the one hand we are all agreed that a supra-national organization is a necessity," on the other he wants a number of conditions satisfied so that ". . .the supreme power has been so decentralized as to make it innoxious (*sic*)* both at home and abroad." (Pp. 23 and 44.) Similarly, Röpke at first seems to favor European integration, recognizing it to be a true force and longing. He wants it to take the form of a federal union of small states, the union not to become a strong central government. Yet at the same time its *raison d'etre* is that it forms a bulwark against communism. Toward the end of the book, Röpke rejects all forms of European integration, except a kind that would be available without regionalism under the gold standard.

This book is full of provocative and controversial judgments and proposals. On economic development, Röpke advises underdeveloped countries to stick to primary production. He argues that attempts to industrialize will bring chaos and increase the chances of a communist takeover. Similarly, he argues that the free world is just now "least able to afford the emancipation of colonial peoples" and must therefore seek to delay the end of the colonial system, this also because of communist dangers.

Partisans of widely different persuasions can find ammunition here. The sad part is that Röpke does not successfully draw upon the strengths of Book One to deal effectively with the grave problems and dangers of Book Two.

JAMES C. INGRAM
University of North Carolina

The Persecution of Huguenots and French Economic Development, 1680–1720. By Warren Candler Scoville. Berkeley and Los Angeles: University of California Press, 1960. Pp. x, 497. $6.50.

For almost a century French Protestants enjoyed freedom of worship under the terms of the Edict of Nantes, issued by Henry IV in 1598. The revocation of the Edict of Nantes in 1685 deprived the Huguenots, as the French Calvinists were called, of religious and civil liberties and drove many of the persecuted sect out of the country. One of the perdurable by-products of the revocation was an historical polemic, which has never been satisfactorily resolved. From massive manuscript sources in French archives and hundreds of books and articles Professor Scoville has skillfully assembled materials to test the hypothesis, subscribed to by the economist Richard Cantillon among others, that the revocation of the Edict of Nantes was the principal cause of the economic decline of France in the closing years of the reign of Louis XIV.

Concerning the secular stagnation of the French economy in 1683–1717 there is not much room for argument. Examination of demographic data, public finance records, and the statistics of agriculture, manufacturing, and trade confirm that, "almost immediately after Colbert's death. . . France plunged into one of the most acute and prolonged periods of economic distress in her history." The question posed by Scoville is whether historians (and even contemporary observers) who blamed religious persecution for the economic decline may not have been caught in the trap of *post hoc, ergo propter hoc.*

As a matter of fact, as early as 1661 Louis XIV began to undermine the guarantees afforded Huguenots by the Edict of Nantes. More than 300 orders and decrees ousted them from accustomed places of worship, restricted their right to hold public office, imposed discriminatory taxation, and "stigmatized and penalized still further an already despised minority." Despite these restraints on individual and property rights, in the two decades prior to the revocation the Huguenots "concentrated their energies on economic activities with remarkable success."

The reign of terror which followed the revocation induced considerable emigration, and it is the drain of capital, entrepreneurs, and artisans which is most often advanced as the proximate cause of France's economic difficulties. Quantitatively, the available data do not make a good case for this view. In 1685 the Huguenots made up not more than a tenth of the population; and out of 1½ to 2 million Protestants, possibly 200,000 emigrated shortly before or after the revocation. But the 200,000 who fled "were drawn from its most industrious, most enterprising, and most economically active citizens."

The reader who expects Scoville to show conclusively that the revocation had nothing to do with the protracted depression or, alternatively, that religious oppression provides the best explanation of the decline will be disappointed and, perhaps, even a bit frustrated. Clearly, in selected

* These are no doubt translator's errors. They are numerous.

instances (e.g., papermaking) the withdrawal of Protestant capitalists and craftsmen was a significant factor in industry's distress; if nothing else, the frantic efforts of the government to encourage them to return furnishes acceptable evidence that some expatriates were not expendable. On the other hand, "contrary to what has frequently been alleged, not a single one of all the woolen manufactories that operated on a relatively large scale anywhere in France seems to have folded up because of the revocation." Many Huguenots bowed to pressure to renounce their faith; more numerous were those who persisted in their heresy but did not emigrate. Among the latter were individuals whose inferior social status inspired them to redouble their efforts in pursuit of profit. But Scoville is wary of applying the "Protestant ethic" to the interpretation of the material success of the Huguenots: "The mere fact that Huguenots made a favorable showing in economic activity does not prove that Protestant ideology reinforced their economic drives or that Protestantism as a way of life conflicted with such drives less than Catholicism."

What, then, if it is possible to say, were the causes of the decline of France? A great deal may be explained by two major wars (League of Augsburg and Spanish Succession), as a result of which the government "manipulated money, created and sold public offices, devised new taxes, and plunged deeper and deeper into debt." Manufacturing and trade flourished under Colbert, despite government intervention; after Colbert's time the regulatory machinery became more burdensome and the bureaucracy charged with operating it, less competent. Tariffs were frequently and arbitrarily raised, and retaliation deprived France of foreign markets. "Depopulation became a problem after 1683." For this phenomenon no single explanation suffices, but increased mortality from recurrent famine was as important as emigration for religious reasons. England and Holland forged ahead in the period under study. While it is true that both countries were the beneficiaries of a windfall in the shape of capitalists and workers who fled France, the more important "causes" of English and Dutch development were favorable political, social, and economic institutions. France resumed her economic advance under the Regency, although Protestants still suffered the disabilities imposed by the revocation of the Edict of Nantes.

Such, in brief, are the considerations which lead Scoville to the conclusion that the downturn in French economic development, which coincided with the revocation, cannot be viewed as the direct result of religious persecution. How much the harsh treatment of the Huguenots accelerated the decline or retarded recovery is a question that cannot be answered with precision. Lest anyone think, however, that the author has spent thousands of hours in research to become an apologist for Louis XIV, one of Scoville's concluding paragraphs makes his position unequivocal: "The revocation still stands condemned as a crime against man, for it violated individual freedom and human dignity. How can one estimate the harm wrought by distorting and perverting the moral decency and character of Frenchmen who actively participated in the persecution of their fellow men, or who passively witnessed the acts of cruelty?"

Lüthy's history of Protestant banking from 1685 to 1789, published after *The Persecution of Huguenots* went to press, shows the possibility of making fruitful case studies of particular businesses in which the Huguenots were prominent; but to retrace Scoville's patient steps through manuscript and printed word in the hope of uncovering radically different testimony would, I believe, be a poor use of resources. If pressed to find fault with this impressive and well written book, I would begin, and end, with a minor one—the skimpy index. It locates "gin" (on two pages) but omits Max Weber, who is mentioned on at least three pages. There is an entry for "acceleration of derived demand," but none for "prices." (I could turn to "deflation," but not "inflation".) Not by way of consolation, but as a matter of fact, it may be noted that if the author were a French scholar, I would probably have no index to criticize.

ROBERT S. SMITH

Duke University

Flexible Exchange Rates: Theory and Controversy. By Egon Sohmen. Chicago, Ill.: University of Chicago Press, 1961. Pp. xiv, 173. $5.00.

The practice of "pegging" foreign-exchange rates (i.e., maintaining the exchange ratio of domestic for foreign currency within relatively narrow limits through discretionary purchases and sales of currencies by the domestic monetary authorities) is one of the milder current forms of direct intervention in the foreign-exchange market. It arose during the interwar period after the universal abandonment of the international gold standard (non-discretionary pegging) and after several experiments with freely-fluctuating rates proved unsuccessful. Though exchange-rate pegging has now become a common feature of monetary management in most of the chief trading nations of the world, the wisdom of its use as a tool of domestic policy has long been severely

questioned, especially by free-market enthusiasts and particularly in times of balance-of-payments difficulties.

The monograph under review argues persuasively for the reestablishment of free markets in foreign exchange with a comprehensive theoretical critique of notions of existing conditions on which exchange-rate freezing is usually justified. These notions include anticipations of low demand elasticities (for imports and exports) when devaluation is considered, as well as unsettling price, income, employment, and terms-of-trade effects of such a move; fears of massive capital outflows (capital "flight") induced by a depreciating currency and accelerated by destabilizing speculation; and more or less vaguely-articulated beliefs in the general incompatibility of a long-range plan for economic growth with an uncontrolled market in foreign exchange. With all of these Professor Sohmen deals meticulously, refining and amplifying some already well-known criticisms of exchange-rate manipulation (for example, M. Friedman's classic, "The Case for Flexible Exchange Rates," *Essays in Positive Economics*, Chicago, 1953) and adding some telling arguments of his own. Sohmen's questioning of inflation as a necessary consequence of the freeing of exchange rates casts new light on a much-debated issue, and his examination of the effects of unrestricted capital movements on the exchange market, as well as his discussion of the functioning of the "forward" market in foreign exchange, contains much that is sound and original.

In his brief foray into the area of policy prescription, the author advocates monetary and fiscal policies that would promote at least long-run equilibrium in the exchange market, to the extent that short-run disequilibria can be bridged by available exchange reserves. Nor does he entirely rule out direct intervention by government, but would limit this to the "forward" rather than to the "spot" exchange market and then for only as long as the occasion warrants. In brief, domestic policy is to be undertaken not to insulate the exchange market against internal economic change, which apparently cannot long be successful, but to provide a smooth internal adjustment to external forces manifest in the fluctuations of an unconstrained exchange rate.

While the author's theoretical virtuosity leaves little to be desired, there is some doubt as to the degree to which his logic sharpens our appreciation of the problems of monetary authorities in countries whose national welfare is so vitally dependent upon a well-functioning exchange market. Stabilizing speculation in a free market is shown to be at least as probable as destabilizing speculation, but to argue thus for freely-fluctuating rates is to ignore the potentially serious consequences of the latter possibility. Furthermore, Sohmen's analysis is carried out largely in terms of comparative statics; certainly the dynamic implication of exchange-rate movements (e.g., changing expectations and structural relationships) cannot afford to be neglected by those to whom responsibility for policy and the achievement of diverse, if not conflicting, goals is entrusted. Nor can matters of risk and uncertainty be wholly eliminated by the establishment of a forward market in which direct intervention may periodically occur.

Sohmen provides no fresh inductive evidence in his challenge to the plausibility of conditions justifying intervention, and the empirical studies cited can hardly be construed as furnishing "forceful support" for his views—as is claimed. These studies represent a painfully limited sample of relevant experience, and to one familiar with them the evidence collected is not necessarily open to unambiguous interpretation.

Judged as a piece of economic literature, the author's terse style and closely-reasoned analysis makes this monograph rewarding though not simple reading. Not the least of its virtues is its wealth of bibliographical references on one of the most interesting and controversial areas of international economics. For teacher and student alike, this alone will be much appreciated.

SEYMOUR S. GOODMAN
Tulane University

The Rich and the Poor. By Robert Theobald. New York: Clarkson N. Potter, 1960. Pp. xii, 196. $4.50.

Although it is easy reading this book may discourage even the most avid student of economics. Its subject is opportune: the raising of the poor of the world to the level of the rich through social action. But a prescription is difficult to piece together from a diversity of ideas garnered from economics, social anthropology, and social psychology. J. M. Keynes and J. K. Galbraith are the primary authorities, and Margaret Mead, Pearl Buck, Robert Redfield and others, the secondary.

The argument is directed largely against neoclassical economics. Present-day world conditions obscure its application. Singular attention is given to the hypothesis that attitudes towards work, saving, and investment throughout the world today differ greatly from those assumed under the neoclassical prescription. With this position there may be partial agreement but the

backward bending supply curve—the focus of the author's assault—is only one of a number of "vicious circles" of the poor economy.

The author really does not identify which facet of neoclassical economics worries him. If his quarrel is with the behavioral then he is justified in his criticism. More than a few of the behavioral assumptions of neoclassical economics are distantly removed from the Africo-Eurasiatic world, where strident efforts to change the lot of the multitudes resound on all sides.

The normative aspect of neoclassical economics does not pretend to fit all and every culture, however. It states fundamentally the conditions of operation of an economy if that economy is to achieve maximum resource use. To be sure, the neoclassical is but one of conceivably many possible models which could be designed to do the same thing, but until such variants are spelled out there seems to be little reason for dumping this model, especially when it may be amenable to modification. No working economist denies all of this and almost everyone recognizes that human behavior is diverse and that model building must reflect this fact. When, however, the author looks with dissatisfaction at neoclassical economics because he believes that it has ignored the sociological foundations of theory he is wrong. A product of Cambridge University, he should surely be familiar with the sociology of Alfred Marshall.

Having gone all out to pound the lectern with his figurative shoe on the subject of the poor and the rich, he goes on to remonstrate with the economist that the prescription for the development of the poor nations must be based upon theory having interdisciplinary origins. This emphasis is hardly new. Nearly everyone who has spent some time in the poor nations of the world on an economic mission comes back home shouting this need from the house tops. It is asserted, furthermore, that each nation has its own problems of economic development and each its own solution. But no one brings forth a theory so conceived and founded. The issue remains: how does the policy-deviser concerned with backward areas apply the separate social sciences to their problems? About all that he can do is to study the principles of each and then, whether he be an anthropologist, sociologist, psychologist, or economist, go his own way as he attempts the close-at-hand analysis. Thus, the economist, while cognizant of the value to him of the other social sciences, finds that he has to evolve his own behavioral theory. A rereading of Keynes' *General Theory* should show that this is the favorite and perhaps the only possible approach.

In spite of his antipathy towards it, tempered touches of neoclassical theory come to share a place in the author's thinking about the economic development of the poor nation. He concedes that there must be work, saving, and investment if a nation is to advance. But he provides no systematic juncture of the disciplines in this venture into theory. His statements are largely obiter dicta and he invents no new theory of economic development. The residue of the argument is tied principally to the Malthus-Hobson-Keynes theory of maintaining aggregate demand, which, since it failed to explain the continuous post-war prosperity, is now taking on a new coloration. Its advocates, among them the author, again about to lose faith in the consumer's willingness to contribute to the maintenance of funds needed to equate total demand and total supply, are returning to the belief that "affluent" societies can spend much more than is done on things which the consumer may value less than he does the goods bought by him. But this theory is far from being a theory of economic development. At its best, it is a return to Keynesian orthodoxy, a short-run monetary theory that affords no explanation of the forces which control the economic development of the poor nation. In this respect both Keynesian and neoclassical economics are paupers. The application of neoclassical and later Keynesian economics in the western world clearly had another setting than that to be found in the Africo-Eurasiatic world. The American Revolution was not a revolution of the poor primarily and most of the poor of that day were surprisingly well fed.

The poor nations today will no doubt move in directions away from those taken by western societies in the great advances made by them since 1750. They will not in all likelihood reflect upon the economic rebirth today of Western Germany, France, and Italy along classical lines; even Japan's success is being ignored. For Russia has demonstrated that, if the costs of human liberty and even the health of the individual are set aside and if it has some resources, a nation can raise its economic level significantly and rapidly through a simple (to them) authoritarian approach. Many a poor nation will look with favor upon such method, especially those with multitudes of their peoples suffering from a malnutrition which leaves them mentally incapable of making the socioeconomic decisions necessary to achieving growth. Contrary to the author's views on these matters, these peoples are often reduced to such a state of life that they hardly know their own desires and satisfactions. To them freedom means nothing for they have never

known it. They live under continuous fear, particularly the fear which comes from ignorance. If these nations are to be advanced these multitudes may have to be lifted virtually bodily from their lowly status for they can hardly help themselves.

The burning question which remains unanswered by the author and others of his inclinations who attack the momentous problem of economic development is: how can America with its set of values help the poor nations with their own sets of values and at the same time retain its values to the extent it may so desire? Is there much that America can do unless it ascribes in part to the authoritarian way? This is an odious dilemma but it manifestly must be faced.

ERNST W. SWANSON

North Carolina State College

NOTES

ANNOUNCEMENT

The Thirty-First Annual Conference of the Southern Economic Association will be held on November 10 and 11, 1961, at the Peabody Hotel, Memphis, Tennessee.

DEATHS

J. R. Vandergrift, professor of accounting at the Oklahoma State University, died on July 18, 1960.

Erich W. Zimmerman, professor of economics at the University of Texas since 1942, died on February 16, 1961.

APPOINTMENTS, PROMOTIONS, RESIGNATIONS

Wilton T. Anderson, professor of accounting, Oklahoma State University, who joined the faculty in September 1960, has been appointed head of the Department of Accounting effective September 1961. He is also serving as chairman, American Accounting Association Teaching-Methods-Case Methods Committee.

J. K. Bailey has resigned as chairman of the Department of Management at the University of Texas to return to full-time teaching.

P. A. Ballesteros, of the Economics Department, Northeastern State College (Okla.), is the recipient of a Ford Foundation Faculty Research Seminar Fellowship.

Russell H. Baugh, professor of economics at Oklahoma State University, was on sabbatical leave for the academic year 1960–1961.

J. O. Blackburn, formerly of the Department of Economics and Business Administration, Duke University, has been appointed assistant professor of business administration at American University of Beirut, Beirut, Lebanon, effective September 19, 1961.

Donald E. Bostron, of Indiana University, has been appointed assistant professor of management at the University of Texas, effective September 1961.

W. Donald Bowles, assistant professor of economics at American University, has been appointed Washington, D. C., correspondent for the *Southern Economic Journal*.

Wanda M. Broussard, assistant professor of business at Grambling College, is on leave for study toward the doctorate degree at the University of Texas.

David W. Brown has been appointed extension economist in farm management within the Department of Agricultural Economics and Sociology at Texas A. and M. College.

Walter Buckingham, director of the School of Industrial Management, Georgia Institute of Technology, has been appointed staff director of the United States House of Representatives Subcommittee on Unemployment and the Impact of Automation. He will be on leave during his assignment in Washington.

George Bullard has been appointed assistant professor of marketing at Mississippi Southern College.

James F. Butler has been appointed assistant professor of statistics and economics at Louisiana Polytechnic Institute.

John Chant has been appointed instructor in economics in the Department of Economics and Business Administration, Duke University.

Donald Raymond Childress was appointed associate dean of the College of Business Administration, University of Oklahoma, effective Summer 1960.

Alvin Cohen, instructor of economics, University of Florida, has been appointed Fulbright Lecturer at the University of San Marcos in Lima, Peru, 1961–1962.

Sherman Dallis, associate professor of industrial management, has been appointed acting director of the School of Industrial Management, Georgia Institute of Technology.

David G. Davies, formerly associate professor at the University of Cincinnati, has been appointed associate professor of economics at Duke University.

David Glyn Davies, who is completing his graduate work at the University of North Carolina, has received a one-year appointment as instructor in economics at Duke University for 1961–1962.

Ralph L. Day, assistant professor of marketing at the University of Texas, will be on leave to serve in a visiting capacity at Carnegie Technological Institute during 1961–1962.

Louis De Alessi, formerly at the University of California, Los Angeles, has been appointed assistant professor of economics at Duke University.

Norton T. Dodge, assistant professor of economics at the University of Maryland, has received a faculty research fellowship from the Ford Foundation and will be on leave during the 1961–1962 academic year.

William P. Dommermuth, of Northwestern University, has been appointed to the marketing faculty of the University of Texas, effective September 1961.

Richard M. Duvall, formerly instructor at Duke University, has been appointed assistant professor of business statistics at the University of Texas, effective September 1961.

James B. Dyer has been appointed assistant professor of business at Jacksonville State College (Ala.).

Roy B. Eastin, formerly executive officer, U. S. Government Printing Office, has been named professor of business administration at George Washington University.

Gene Edward has been appointed assistant professor of political science at Harding College.

Harry H. Elwell, Jr., formerly with the University of Illinois, has been appointed associate professor of marketing at Florida State University.

Persis Emmett has been appointed assistant professor in marketing and management at Florida State University, effective September 1960.

Stephen Enke, formerly with the Rand Corporation and recently at the University of Cape Town, has been appointed professor of economics at Duke University.

Richard F. Ericson, formerly associate professor of management at the State University of Iowa, has been named professor of business administration at George Washington University.

Edward Ettin, of the University of Michigan, has been appointed assistant professor of economics at Duke University, beginning with the second semester 1961–1962.

James W. Giese, of the University of Illinois, has been appointed assistant professor of accounting at the University of Texas, effective September 1961.

John G. Gurley, professor of economics at the University of Maryland, will join the Department of Economics at Stanford University in the fall of 1961 as professor of economics.

Herbert R. Hahn has resigned from the Department of Economics and Business Administration, Duke University, to accept a position with the First Union National Bank, Charlotte, N. C., effective June 1961.

Mark Hanna, of the Department of Economics and Business Administration, has resumed his teaching duties at Auburn University after a quarter's leave of absence while working on his doctorate at the University of North Carolina.

James T. Hard, of Louisiana State University, has been appointed assistant professor of accounting at the University of Texas, effective September 1961.

B. F. Harrison, professor of accounting, Oklahoma State University, will become head emeritus of the Accounting Department in September 1961.

Judge Loren P. Hillsinger, retired, served during the Winter and Spring terms at Rollins College as instructor in the Undergraduate Division and in the Graduate Program in Business Administration.

Owen Horwood, of the University of Natal of the Republic of South Africa, has been appointed visiting professor of economics at Duke University for the first semester 1961–1962.

John H. James, formerly of Indiana University has been appointed assistant professor of management of the University of Florida, beginning in September 1961.

O'Neill Kane has been appointed instructor in economics and business administration at Rollins College for the year 1961–1962.

Calvin Kennedy will join the East Central State College staff in September 1961 teaching business and economics courses.

John A. Kincannon has been promoted to associate professor of agricultural economics at Texas A. and M. College.

Donald King, of the University of North Carolina, has been appointed instructor in economics for 1961–1962 at Duke University.

Richard I. Leighton, formerly of Duke University has been appointed assistant professor of economics at the College of William and Mary.

Ross W. Lovell, of the University of Texas, has been appointed assistant professor of management at the University of Houston, effective September 1961.

P. John Lymberopoulos, formerly instructor of business statistics at the University of Texas, has been appointed assistant professor of statistics at Ohio State University, effective September 1961.

G. B. McCowen, professor of accounting, Oklahoma State University, is scheduled to retire at the end of the spring 1961 semester.

John G. McNeely, professor of agricultural economics at Texas A. and M. College, served as ICA consultant in Argentina in September and October of 1960.

John E. Maxwell has been appointed assistant professor of business at Louisiana Polytechnic Institute.

Jarvis Miller has been promoted to associate professor of agricultural economics at Texas A. and M. College. During the next two years, he will serve as agricultural economics advisor to ICA, working with Argentine argicultural officials on livestock marketing research.

W. L. Miller, of the Department of Economics and Business Administration at Auburn University, has received a grant from the Inter-University Committee for Economic Research on the South.

Marshall Milligan, of the College of Business Administration, University of Tulsa, resigned in

September 1961, to head the Economics Department of Skelly Oil Company.

Thomas. H. Naylor has been appointed instructor in management at Tulane University.

Grover A. J. Noetzel, dean of the School of Business Administration, University of Miami, has resigned, effective September 1961. He will remain at the University as professor of economics.

Richard Norgaard, of the University of Minnesota, has been appointed assistant professor of finance at the University of Texas, effective September 1961.

Neil R. Paine has been appointed assistant professor of general business at the University of Houston.

James M. Parrish has resigned as dean, School of Business and Industry, Mississippi State University, to accept the position of director of education, Officers Assignment Directorate, Department of the Army.

Richard Pasternak has been appointed assistant professor of economics and business administration at Rollins College for the year 1961–1962.

S. E. Robb, formerly of the University of Texas, has been appointed assistant professor of management at the University of Illinois, effective September 1961.

Richard L. Rowan, who was a part-time instructor in economics and took his Ph.D. degree in June at the University of North Carolina, has been appointed lecturer in economics at the Wharton School of Finance and Commerce, University of Pennsylvania, effective September 1961.

Everett Royer, associate dean of the School of Business Administration, University of Miami, has resigned that position, effective September 1961. He will remain at the University as chairman and professor, Department of Accounting.

Charles L. Schultze, associate professor of economics at Indiana University, has been appointed associate professor of economics at the University of Maryland, effective September 1961.

Ansel M. Sharp, economics director, College of Business Administration, Oklahoma State University, has been appointed Oklahoma correspondent for the *Southern Economic Journal*.

Issac Jacob Sollenberger, of the Department of Finance, University of Oklahoma, will retire in June 1961.

B. H. Sord will become chairman of the Department of Management at the University of Texas, effective September 1961.

Jack Starling, assistant professor of marketing at Mississippi Southern College, has resigned to do graduate work.

Randall Stelly has been promoted to associate professor of agricultural economics at Texas A. and M. College.

Harvey D. Tschirgi, formerly with the University of California at Los Angeles while completing his doctoral requirements, has been appointed assistant professor in management at Florida State University, effective September 1961.

James C. Vadakin was appointed chairman of the Economics Department at the University of Miami, effective February 1961.

Richard Vreeland has been appointed chairman of the Department of Marketing at Mississippi Southern College.

Jack Wagle, professor of marketing, has been appointed head of the Department of General Business and director of the M. B. A. Program at Oklahoma State University.

Richard L. Wallace, formerly of Vanderbilt University, has been appointed instructor in economics at Florida State University, effective September 1961.

Wallace W. Webb, formerly university fellow and part-time instructor in economics at the University of North Carolina, has been appointed assistant professor of economics at the University of South Carolina, effective September 1961.

Paul A. Weinstein has resigned as instructor of economics at Oklahoma State University to accept a position as assistant professor of economics at the University of Pittsburgh.

C. Glyn Williams, formerly of Queens College (N. C.), has been appointed assistant professor of economics for 1961–1962 at the University of Alberta in Edmonton, Canada.

NEW MEMBERS

The following names have been added to the membership of the Southern Economic Association:

Mohi U. Ahmed, Duke University, Durham, N. C.

Jack Blicksilver, Georgia State College of Business Administration, Atlanta, Ga.

W. Donald Bowles, American University, Washing, D. C.

Charles E. Brewer, Queens College, Charlotte, N. C.

Dan D. Davis, Southern Methodist University, Dallas, Tex.

Louis Dow, University of Oklahoma, Norman, Okla.

Henry Engler, Loyola University, New Orleans, La.

Andreas S. Gerakis, 2044 University Boulevard, Jacksonville, Fla.

Lewis E. Hill, Clemson College, Clemson, S. C.

Philip D. Jones, Macmillan Company, 60 Fifth Avenue, New York, N. Y.

Randolph G. Kinabrew, University of Mississippi, University, Miss.

Clarence D. Long, Johns Hopkins University, Baltimore, Md.

Rosemary MacLellan, College of William and Mary, Williamsburg, Va.

Samuel Hudgins Phillips, Jr., University of Virginia, Charlottesville, Va.

Emmanuel Nicholas Roussakis, Fisk University, Nashville, Tenn.

Richard Sielaff, University of Minnesota, Duluth, Minn.

Louis L. Szep, 5427 Monticello, Dallas, Tex.

Melville J. Ulmer, 6605 Little Falls Road, Arlington, Va.

Hugh D. Walker, Vanderbilt University, Nashville, Tenn.

Martin P. Wehling, Mississippi Southern College, Hattiesburg, Miss.

Jiro Yokoyama, Foreign Department, Japan Development Bank, Tokyo, Japan.

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Albers, Henry H. *Organized Executive Action: Decision-Making, Communication, and Leadership*. New York: John Wiley & Sons, 1961. Pp. xii, 604. $8.50.

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Ashworth, William. *An Economic History of England, 1870–1939*. New York: Barnes & Noble, 1961. Pp. vi, 438. $6.50.

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